The Bolingbroke Lecture

ON

THE FACTORS OF INSANITY.

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GENTLEMEN,—In accepting the invitation to give the Bolingbroke Lecture for 1907 I knew I should meet with old friends and that though I had nothing startling by novelty or originality to present yet I should be kindly received.

One begins, if an earnest worker in any branch of nature knowledge, with careful and very widespread observation—a making, as it were, of the bricks. With advancing years one tries to arrange these observed facts—and mind they should be facts and not mere fancies. This is a process of puzzle-making which is lost with the age when the energy is lacking but the power of contemplation is increasing and the time for philosophising should be reached. With youth one should, I think, be hopeful, inquisitive, and expectant; with age tolerant and more passive.

And now to my subject. Having passed through many years of observing and arranging I am longing for some definite guides which I may pass on to others if I cannot use them much longer myself. The subject which I have taken I have called "The Factors of Insanity." I have in this followed in part a very instructive lecture given by Hughlings Jackson entitled "The Factors of the Insanities" and I am inclined to think his title the better of the two, for we both agree that there is no definite entity, a disease which can be called insanity. I sometimes think that I shall be longer remembered than by anything else by a jocular illustration in the "Guyoscope" in which I am represented as a showman asserting that "there is no such thing as insanity." Any way, I want you to follow me in this: that I shall not define but describe later what I mean.

To proceed, then, the subject is to be the Factors of Insanity. A factor has been defined to be "a circumstance, fact, or influence which tends to produce a result." Insanity, as I said, I shall not define but shall consider it to be a disorder of mental balance which renders the person alien—that is, out of relationship with the surroundings into which he has been born, educated, and has hitherto fitted. The standard will thus be seen to be a purely personal one, the person being measured by his present and past conduct. Before proceeding to consider Hughlings Jackson's ideas in full I must refer to the generally accepted position of the nervous system in man in connexion with its growth and its decay. It has been described as a hierarchy in which the harmony of working depends on subordination of the lower to the higher grades. It has also been compared to an army with its various grades of officers and on the whole I prefer the latter comparison. In this we have the simplest part, having full individual power along his own lines, but directly he comes into relationship with a higher power, though not losing his individual character yet he is directed and controlled, though at the same time he may be freed from this control and act independently. The next step is the recognition of larger groups formed of individuals who again can act independently or under higher control and thus the largest possible numbers may be brought into harmonious working with the establishment of one head. This is recognised by you all, but I must recall to your notice that defect in the head may arise from loss of that head, from incapacity, or from absence, so when considering the effects of dissolution—that is, the removal of the head—we shall see that such removal may be temporary or permanent. Just as evolution represents the establishment of this harmony by development of stages of higher control, so dissolution implies the destruction of such harmony. I shall have to point out that dissolution does not always follow exactly the lines of evolution. The factors of the insanities have been described by Hughlings Jackson in relationship to dissolution as differing (1) according to the depth, that is the degree, of the dissolution; (2) the nature of the person affected; (3) the rate of the dissolution; and (4) the different environment of the person involved. I shall consider these points more in detail but not in the same order as the above.

First, as to the persons who may become insane. Recently in my Lumleian lectures I enlarged on the character of those who become insane and I shall now only summarise my former statements. It is not in my opinion possible for everyone to become insane, we are not all potential lunatics. Probably it is possible for anyone to become delirious as the result of toxic causes, though here, again, I am inclined to think some are much more likely to become delirious than others. It is not only a question of difference of degree. It is commonly said that anger is brief madness but there is all the difference between the maniacal person and the passionate one. And there is an equal difference between the man who is depressed as a result of external conditions and he who is melancholic. Again, similar causes produce insanity in one and pass without producing it in others, in this differing from the ordinary causes of disease. Who, then, are the predisposed? It is all very well to cover one's ignorance with a name but naming is necessary to enable us to go further. I say then that the essential or acquired neurosis is at the base of all insanity. By neurosis I mean the abnormal tendency to react too readily to the surroundings. Most neurotics are derived from parental neurosis of certain types, parental decadence, but this neurotic tendency may be self-induced by causes leading to brain degeneration, such as excess of alcohol and the like. The neurotic exhibit some special peculiarities. They may be unstable from infancy, being liable to motor defects of control as seen in convulsions or general restlessness, to defects of nutritional control seen in irregular temperature, and with development there is defect of emotional control as seen in the "rages" of infancy and youth. There is a tendency to general instability, physical and nervous, seen in the development of disorders as soon as the stress of sexuality arises. With advancing years neurotic disorders are chiefly marked by their tendency to establish morbid mental habits, and I shall have to point out to you that the stronger the neurotic tendency the greater the tendency to establish such habits and to produce the chronic and recurrent types of disorder. I must, however, ask you not to be alarmed at the many evidences of neurotic tendency and of potentiality to become insane, for one has to remember no plants depend on one condition alone, so there must be the seed, the soil, and the suitable conditions for growth to produce any result.

Now I will proceed to consider more in detail what is meant by the factor of dissolution in the production of insanity. Much has been learnt in natural science from observing the lines which are followed in the breaking up after death of the organisms which in life are hard to understand. It was said that the relationship of the spinal bony structure and the bones of the skull was suggested to Oken by seeing the breaking up of, I believe it was, a sheep's skull in a German field, and it is certain that in nearly all structures something may be learnt by observing the conditions under which they break up and the lines of cleavage. We must not, however, expect to find an exact parallel between evolution and dissolution, for the conditions of growth and decay vary. We recognise that both in spring and in autumn the trees may be equally bare of leaves, yet the appearances differ in very many ways; so it is with the human body and the mind. Now I think Dr. Hughlings Jackson in his most lucid and enlightening lecture takes it for granted that all insanity is disease; that, in fact, it is all a departure from a normal and natural condition. Sanity and the conditions of society are certainly not primitive, and though we hear a great deal about the necessity for health to return to more natural ways this is to my mind great nonsense. We cannot return to natural habits and attempts to return are in many instances evidence of mental disorder. There is no standard of mental health apart from the individual and I shall hope to point out that what has been termed by, I believe, Maudsley the tyranny of the organisation plays its part, that certain persons come into the world so disposed organically that they cannot grow into what is looked upon as socially normal or sane.

There is insanity of evolution or by evolution as well as insanity of dissolution. There is no definite entity which can be considered the cause of insanity, and there is no

definite set of symptoms always associated with certain lines of conduct which must be looked upon as mad. There are, as I shall point out, certain mental growths which are morbid but which do not depend upon any line of dissolution. When saying that there are forms of mental disorder which have no material pathology I must not be misunderstood, for, of course, I admit that every action and every thought has its associated and appropriate nervous equivalent. Every result has a cause, but there may be many relationships between tissue and function which, though inconvenient or even inconsistent with the stability of social life, yet are not the result of any degenerative process. To make clear what I mean I would repeat that there is no common standard of sanity, that what is reasonable conduct in one man may be evidence of insanity in another. That what would be natural at one age in the same person may be perversion at another.

The first most important fact in dissolution is fully to recognise that the removal of the highest functions leaves the lower ones free, or at least more free, to act independently, but it must not be supposed that in this uncovering you have actual lines of former life made evident. It does not do to say that because when the highest control is lost a man returns to what he really is. There may be truth in wine but it does not prove that the man's nature is organically intemperate.

In considering the effects of dissolution I shall separate the cases in which the patients are young from those of advancing years, for though in many respects similar there are differences which render this separation convenient. With slight loss of the highest mental power we often meet with inability to decide; this in an advanced stage is the *folie de doute*. It is well recognised that any one recovering from a long physical illness may be unable to walk or even to stand firmly, there may be a staggering gait, and with the mental functions this is seen in want of power to decide on even the simplest matters. I remember well the case of a young man in whom this doubt was nearly ending his life, for he was sent big game shooting as a means of restoring his balance. When a big bear was approaching him he could not make up his mind to shoot and if his friend had not had more power of decision the bear would have been the survivor. In another case I remember a young man in this state of temporary mental weakness who would take hours in making up his mind as to which pair of boots he should put on. Allied to this state is that which has been called by the Germans "Grübelsucht." In this a person's inability to restrain himself from looking at anything which is near whether it concerns him or not is the chief symptom. Thus a man seeing a piece of paper blown across the road is miserable unless he can get it and the fact that another person is reading a letter in the train with him leads him to try to look over it. Such conduct is easily misunderstood.

With very slight loss of higher power there may be apparent loss of memory. In the acutely insane memory is often good, though it may be confused in its relationships, but in many cases in the earlier periods and during convalescence there may seem to be lack of memory, the truth being that there is want of power of application or concentration. Things are not brought into the mental focus, are not really properly perceived.

Loss of mental power is generally associated with defect of control and this is shown in various ways. Thus there is what I call exaggerated mental reflex, there is a sudden reaction to any outside stimulus regardless of consequences. One patient told me that he had suffered from "suggestive consciousness," so that an act followed any suggestion. It is thus that in many cases there are outbreaks of sudden impulsive violence in the early stages of progressive dementia; similarly there may be lustful acts following the slightest incentive, and another rather remarkable consequence is the defective control of the imagination; this is seen in romantic stories and false accusations. Speech and control of the facial expressions are among the higher human attributes and it is common in the earlier stages of progressive mental weakness and in certain forms of established dementia to meet with the habit of talking to self and laughing without any apparent external stimulus. Thinking aloud and laughing causelessly are important symptoms of dissolution.

As might be expected, with the slighter dissolutions there remains a great part of the mental functions in fairly working order. The slight disorders are associated with the most difficult cases, in which there appears only to be the development of wilfulness or moral perversion. I am constantly consulted by persons whose whole domestic life is wrecked in consequence of some slight loss of higher power of adaptation. Such produce family jars and endless domestic and legal trouble, yet the patients in the large majority of cases cannot be certified as being insane. Time will not allow me to give instances of this trouble which I have elsewhere described as "social misfits."

It will be readily understood that the dissolution varies in degree and I shall later refer to this in detail. Partial reduction may produce symptoms which resemble what I have just been describing, the normal part of mind acting while there is loss of higher control. In some such cases the patient while apparently insane may suddenly explain that he recognises the unreason of his thought or act, yet cannot correct it. There are therefore two very similar states in which there is partial dissolution. In one there is recognition of the disorder. Not only the degree or depth of the dissolution affects the result, but as Hughlings Jackson has pointed out the rate at which this is effected materially influences the result. Consequently, the dissolution associated with senility is slow, but this is not always apparently slow; the degenerative changes are going on but the link may be maintained till an extra stress is thrown on it. As Wilks pointed out long ago the chronic diseases are not very often the result of acute disease but acute disease more often occurs as the result of long antecedent changes. Just as senile dissolution is usually a slow progress, so that associated with epilepsy is very acute and very prolonged.

Intermediate in rate and more easily noted are the changes due to toxins of one kind or another. With the most common of these, such as alcohol, one sees the loss of higher control in word and deed, then the confusion of thought and the excitement of the senses producing hallucinations, and much later we have complete loss of power of registering, so that all recent memory is wanting and there is mental and sensory confusion as seen in mistakes as to identity and as to orientation. I shall refer more in detail later to the progressive dissolution of senility. Acute dissolution is well seen, too, in various forms of delirium and delirious mania and these are probably always dependent on some toxic agent. Take such a case as the following. A young man of great physical strength spends some time under very exhausting conditions in a very unhealthy climate, he becomes sleepless, has irregular rise of temperature, but with no evidence of any acute bodily malady. He becomes delirious, mistaking persons and things; his temperature is never above 100° F. He has a very active subjective life, with many hallucinations, chiefly of sight; he talks constantly but not altogether incoherently. He can be for a moment recalled to his senses but he relapses at once if left undisturbed. He has no registering capacity, so that on recovery he has no recollection of what has taken place. In such cases we have well marked the acute, rather profound, temporary dissolution with all the accompanying symptoms.

With epilepsy we have the nearest approach to complete dissolution; there is defect of consciousness with loss of muscular power as well. There remains only organic life, but related to this we must consider certain epileptic states in which there is complete reaction to surroundings yet with no recollection. In certain cases of masked epilepsy the epileptic seizure is generally of the slightest kind but is followed by automatism of a fully organised type. I have elsewhere described a very good example in which a patient was telling me of his consultation with Dr. Hughlings Jackson. When he had got as far as "Hughlings" he stopped for a moment and then began to busy himself in general matters, neglecting me altogether, and so for a considerable time I was able to watch him avoiding obstacles, performing his accustomed duties, and then finally sitting down by me and resuming his conversation with the word "Jackson." Thus there had been a gap in his conscious life which allowed perfectly fit and proper actions being performed without memory or recognised consciousness. Allied to these cases I think are at least some of those in which persons are lost and wander without being able to explain who they are or whence they come. I have quite recently seen several such cases in which there had been wandering in an objectless way with loss of personality and sudden recovery, with wonder as to what had given rise to their present state.

There are gaps of memory or what I might call dissolution in chips, such, for instance, as the man who, falling from his cycle and striking his head, got up and, seeing a policeman near, asked if he would kindly send his cycle home, giving

his address. He then went home himself, went to bed complaining of headache, fell asleep, and awoke some hours after wondering why he was in bed. He had acted perfectly reasonably but unconsciously. In his case there was no doubt of the accident being the cause of the trouble. He was not an epileptic in any degree.

Now as to the special nature of senile dissolution. Loss of recent memory is looked upon as one of the most characteristic marks of this state. It varies in degree; as a rule it is associated with clear memory of the past and in fact I am inclined to think there may be even an exaltation of past memory, for in some cases I was able to verify the facts spoken of by the old man—facts which his relatives said were new to them which he recalled. In one such case an old Crimean officer referred to details of the fighting at the battle of Alma which his children did not remember hearing of before, and after seeing a brother officer I found his statements to be confirmed.

The effects of dissolution vary, as Hughlings Jackson has said, with the conditions of evolution and of surroundings as well as with the cause of the dissolution. The sex has marked influence in colouring the symptoms. The egotism of man is made evident, while the altruism common among women is well seen. The age at which the changes begin also seriously affects the result. Thus in early youth there is very little tolerance of brain disease, dissolution tending rapidly to ultimate and complete decay and dementia. The education, too, shows its influence; the reduction of the more highly educated probably generally proceeds at a slower rate—that is, there are more stages visible than when similar dissolution occurs in the boor. The surroundings, as might be expected, alter the rate and the effect of dissolution. I used to say whereas the abandoned house near a city soon had its windows and doors broken or removed, the small house on a moor might retain its fragile windows longer even than its solid roof. Thus the conditions of life may seriously affect the dissolution and hence the necessity for prolonged rest when there is threatening dissolution of mind.

With senile dissolution there is an unravelling of mind and often a return to childish ways. It is common to have sensory confusion, so that there is a state of mind exactly resembling that produced by alcoholic poisoning. The old man sitting by his fireside talks of the recent journeys which he thinks he has made, of the business which he has transacted. He talks of friends and relatives, long dead, whom he thinks he has seen recently. There are often, too, associated with this marked hallucinations of sight. It is thus interesting to note that with the dissolution of age, of youth, and of toxins similar hallucinations occur. Next, there is loss of the higher social qualities, so that the conventions of society are neglected, the patient no longer cares for his appearance and often will not keep himself clean, and thus from ordinary conventional life he may pass into directly dirty, and then to indecent, conduct, and yearly one sees reports of old men convicted of faults against decency and morality, and it is sad to think that a man's reputation may be ruined by degenerating arteries. A further step which is common is disregard of home duties and family affection and the following after women of the worst class. It is interesting that in such cases, as in some youths with sexual failings, there may be hallucinations of smell. There are thus loss of power of control and loss of power of registering, and also loss of power to rest and to restrain emotion, feeling and desire.

Beside all the above there is an exaggerated self-consciousness. In health we are practically unconscious of our body and its functions, but with age we get the weight of years which leads to a saturated solution of grief from which the crystallised delusion may arise, the form of the crystal depending greatly on the profession and surroundings of the individual. Here, again, is shown the insight of Hughlings Jackson in pointing out the effect of surroundings on the dissolution. The religious-minded man or woman thinks of the sins of omission of youth, the medical man may think that he is struck with general paralysis or cancer, while the man of business dreads ruin and the workhouse, and the soldier fears court-martial and disgrace. It is interesting, too, to note that with most profound senile melancholia there may be little or no defect of memory. Another phase of exaggerated self-consciousness due to senile dissolution is a development of grandiose ideas which resemble those present in general paralysis.

The typical result of dissolution should be dementia. I believe elsewhere I have written that no such thing as complete dementia could exist while life lasted. This I still think is true. The lower levels (of Jackson) must go on recording while life lasts. Dementia which is progressive, defect of mental function with reduced power of reaction to surroundings, varies in degree. It may be pretty general or only partial; it may be steadily progressive or it may progress for a time, then be arrested, leaving a truncated mind capable of certain powers; or it may be permanent and progressive associated with more or less permanent decay of brain.

In the earlier part of this lecture, in speaking of the hierarchy, I said it did not matter much so far as outward results were concerned whether the head were dead, absent, or asleep. Dementia occurs as a functional type as it were with the commander asleep, while in epilepsy he is absent. Dementia may be temporary in toxic states, the head being absent or incapacitated for a time.

Much interest has recently been paid to the mental weakness called dementia præcox, which is associated with the disorders occurring in neurotic subjects at an early age. Such persons have feeble resisting power and their nervous systems resemble the young delicate plant which, being grown under protection, fails when exposed to the unprotected surroundings. In these cases we meet with every possible variety of mental disorder, the only constant symptoms being the steady degradation and the terminal general weakness of mind. Time will not allow me to enlarge on the many varieties which occur. I will only say that such cases seem to be on the increase, occurring mostly in neurotic families, and though very unfavourable when fully established yet may often be relieved if seen and treated early enough.

Grades of mental weakness, and still more of mental instability, are constantly met with as a result of attacks of one form or another of mental disorder. I have already spoken of the partial repair which may take place after such illness, and in former days all cases of recurrent insanity were treated as being forms of mental weakness. Such a classification is convenient, but it is well to recognise that all such cases do not really fall under the head of dementia or mind destruction. It is important to recognise, as I shall later point out, that there are forms of insanity in which there is much disorder but little decay. This naturally leads me to the next part of my subject which is the insanity due to morbid evolution.

There are, as I have already said, certain persons who come into this world with a potentiality to grow wrong. The possibility of variation is associated with the power of progress. There are some persons who grow to be six feet high and there are other perfectly normal persons of five feet. There is no five-foot pathology and I am constantly pointing out that certain persons having certain nervous systems and placed under certain conditions grow into certain habits which may almost be called their normal, yet they may be alien to society at large. The cranks, eccentric, mental and moral freaks, are some of these and if these are still further developed they may pass as insane. A very favourite comparison of mine has been that with ordinary bodily morbid growths. Such growths may be simple, innocent, only causing inconvenience by their site or their size; there are others which are invading and necessarily interfere with the lives of the bearers because they affect so much of the person but yet they do not actually destroy other parts of the body; then last ther are growths which invade and destroy the body; these may be called malignant growths. In my experience nearly all these last occur in the highly predisposed. Now for examples of what I mean. Occasionally we meet with what might be called simple monomanias which do not affect the general mental capacity of the patient. One man at present in an asylum, a clever, clear-sighted man in all other respects, believes that the lady who is his wife is a substitute and that his real wife is passing as maid-servant in the asylum. No amount of evidence appeals to him, the denial of the one or the assertion of the other leaves him unmoved. In another case a man who is trustworthy in all other ways believes that he is the son of the German Emperor. He talks freely about the matter, recognising that it would be unreasonable if I said the same thing, yet there is no alteration in his general modes of thought and feeling on other matters. In a famous case, to which I have often referred, a man during the Indian Mutiny was so impressed with the feeling that if once the blacks entered the fort each man must kill his own women folk that even after the relief he could never live with his wife again as he was so dominated with the idea of killing her, yet this man was allowed perfect liberty apart from seeing his wife and to the end of his life he was not only intelligent but brilliant.

Another form of morbid mental growth which may be

simple or invading or destructive may arise from some bodily defect; a youth with a squint thinks that he is shunned. He has found that at school he was called "cock eye." This has, acting on a sensitive fellow, led to isolation and general exaggerated self-consciousness till at last, though admitted to be a man of ability, he secludes himself and studies but cannot face the world. A deaf man in similar circumstances thinks that people are talking about him and acts similarly. Such cases, as I say, may pass beyond the simple stage, and their conduct may require their supervision. The emotional feelings may in a similar way lead to mental disorder. The anxious wife may become the suspicious, jealous, and, finally, the insanely jealous one. In some such cases the growth is simple but in others it is spreading.

Next, as to some of the more marked invading growths in which there is little or no mental decay. The very best are seen in some cases of hypochondriasis: a man believes that he has some throat affection, he goes from specialist to specialist, from country to country, nothing is able to satisfy him, his whole life and interest is bound up in his ailment, he ceases to take any interest in anything, he would not be able to earn a living, and drifts into a home or an asylum. In some such cases a dominating cause can be traced. In one gentleman the fact that he had been bitten by a dog led him to go to Paris to undergo Pasteur treatment. He has never been able to throw off the dread of rabies. In one case, that of a talented doctor who belonged to a highly distinguished but unstable family, the idea of brain disease has so controlled his life that he has been confined in asylums and will be to the end. He can do nothing for himself but his mind is clear, his memory is remarkably good, and he is still learning and advancing in general knowledge.

There is a difficulty in separating the cases in which simple invasion takes place from those in which there is invasion with destruction, for in the earlier stages they are exactly alike. The cases of organised delusional insanity provide the best examples of invasion with destruction. In many cases it is easy to trace the origin of the delusion to some outside cause. An only son living with his mother gradually gets into solitary ways and later thinks that he is accused of criminal sexual vices in many cases he has been a secret sinner for years, and the consciousness of his fault being projected to the minds of others seems simple. The man who marries his mistress or a woman of a lower order not infrequently finds that she, knowing his failings, is persuaded that he is no longer faithful to her and hence arise all sorts of misgivings, suspicious jealousies, and fully organised delusions of suspicion. The man with a specific scar may grow to think that his fellows know the origin of the scar and first avoid him, then make remarks about it and him, and thus he may have a fully organised set of delusions of persecution and annoyance. The patient with any sexual disorder is among the most likely to develop delusions that other people know all about it. Thus a young woman with too frequent menstruation was certain that even the railway guards knew this and repeated to one another "poor little three weeks." But I have given enough examples to show what I mean when I say that there are certain disorders of mind which I cannot attribute to the removal of higher functions. They are cases in which there has never been a full growth of the power of normal social adaptation.

Now, to sum up, it is not for everyone to become sane; there is no one standard of sanity and there is no one pathology. There is, therefore, the personal factor in every case of insanity; next the dissolution of mental faculties explains many but not all the forms of insanity. The result varies with the rate of dissolution, with the depth of dissolution, and with the cause and the general conditions of the person suffering. The symptoms rarely depend on dissolution alone; beside the loss of the higher faculties there may be developments of the remaining faculties leading to variations in the results.

Beside the insanities of dissolution I have pointed out that there are morbid mental growths of various kinds, the simple, the invading, and the malignant or destructive. Much insanity depends on brain disorder but much also arises from social misfitting.

RIVER POLLUTION.—At a meeting of the Somerset county council held on Oct. 15th, owing to further complaints having been received as to the state of the bed of the River Yeo, caused by the discharge of the sewage of Yeovil, it was decided to apply to the county court to enforce the injunction already obtained against the corporation of Yeovil.

ON MOBILITY OF THE KIDNEYS.

BY HECTOR MACKENZIE, M.D. CANTAB., F.R.C.P. LOND.,

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THE communication which I have the honour to bring before you to-night is the outcome of work carried on over a considerable period of time in the out-patient departments and wards of two large hospitals, St. Thomas's and Brompton. The observations of the cases which I have here recorded were mostly made several years ago when I had charge of out-patients and worked in a field which gives almost unlimited opportunity for making an investigation of this kind. The investigation includes the examination of the abdomen of nearly 4000 persons. The great majority of the patients were examined by myself personally and I verified the fact of the mobility of the kidneys in all cases, but I must gratefully acknowledge the valuable assistance afforded me by my former clinical assistants, especially Dr. Andrew Elliot, Dr. J. Douglas Cree, and Mr. R. N. Daniel. The subject of mobility of the kidneys is one of much clinical interest and importance. It is important on account of the great frequency with which abnormal mobility is to be observed among female patients when examination is made in the proper way. Nephroptosis is an undoubted cause of suffering and inconvenience or actual distress and illness in many cases, and when it is recognised as their cause much relief or actual cure can be afforded by appropriate treatment. Many cases are overlooked, sometimes perhaps to the advantage of the patient, either because the practitioner does not search for them or because he does not possess the necessary *tactus eruditus*. There have, unfortunately, been false prophets in this as in other departments of medicine. There has been a tendency of late years to make an unwarrantable use of the fact that a patient has a moveable kidney as a convenient peg on which to hang any combination of symptoms for which no obvious explanation can be found. On this subject it is necessary to speak out with no uncertain sound. It is important to know that the kidneys are often abnormally moveable without giving rise to any inconvenience whatsoever and that this mobility may be associated with symptoms of dyspepsia, neurasthenia, or even insanity without being the *fons et origo* of these maladies. I strongly deprecate such teaching as that "minor degrees of mobility of the kidneys are the unrecognised cause of much suffering and distress." I do not think there is a particle of evidence that this is the case and I regard the slight degrees as of trivial importance. The majority of cases of even freely moveable kidney are unattended with symptoms and require no treatment directed to that condition.

I would first then direct your attention to the commonness of moveable kidneys. Many of us can remember the time when the condition was looked upon as unusual and specially interesting on account of its rarity. Some, indeed, such as Lawson Tait, a quarter of a century ago denied, for a time, its existence altogether. I saw but few cases when I was a student and comparatively few until I started on the investigation which has led to this paper. The reasons why the condition was thought to be rare were that in the absence of local symptoms it was not looked for and that often the examination was not conducted in the proper way. I may quote in support of this view a statement from a paper published in 1897 by an American authority, surgeon-in-chief to a large hospital for women in an important American city. He says: "For some years, in the more or less systematic examination of office patients, I looked in vain for a case of moveable kidney. After 1893 I began systematically to look for moveable kidneys in all cases having the rational symptoms of this disorder. These examinations were all made with the patient lying on the back upon the office table and were entirely fruitless." This is a candid and instructive confession and all honour to the surgeon for recording the fact that he did not know at that time how to conduct the examination. It is possible that some of us still miss moveable kidneys through not examining in the proper way, and therefore at the risk of repeating what is probably familiar to most of my hearers

[1] A paper read before the Medical Society of London on May 13th, 1907.

to-night I shall state briefly the method of examination which I have adopted in these investigations.

The patient lies on the couch perfectly flat on the back, the head as low as the shoulders, and the legs extended. The examiner sits on the right of the patient when examining the right side, and on the left when examining the left side. The examiner first gently palpates the right side of the abdomen with the right hand from below upwards. If he finds all normal he then places the left hand behind under the back below the last rib and makes firm pressure upwards. The right hand is then placed flat on the abdomen in front and palpation is made between the two hands. Often the kidney can then be felt between them. The patient is at this stage asked to take a series of long deep breaths and the lower end of the kidney will then likely be felt to descend with inspiration. In cases where there is abnormal mobility you feel the kidney descend so far that you can slip the upper border of the right hand above the upper end of the kidney. By putting forward the thumb of the left hand above the kidney you can then fix it in its descended position and release the right hand, which can be employed to palpate the whole of the organ and determine the extreme limits of its mobility. When you remove the thumb of the left hand the kidney can be felt to slip back into its position. A similar investigation is made on the left side, the hands being reversed, the right being underneath and the left above.

This method is perfectly simple, and I believe one seldom fails by its means to discover the degree of mobility of the kidneys. It is only by practice that one become an adept at it, and I find students seldom succeed at first in making out the kidney mobility. But the method is most valuable, not only for making out the mobility of the kidneys but also for investigating other abnormal conditions of the two sides of the abdomen. Some have advocated that the examination should be conducted with the patient standing up, but I am sure that position has no advantages, and has very obvious disadvantages as a routine method, although sometimes it is useful to employ it in addition to the other.

In the record of my examinations I have defined what I call a moveable kidney as one in which I have been able to get completely above the upper end of the kidney. Those cases in which I have been able to feel a considerable part of the kidney but have not succeeded in getting above it, I have called palpable kidneys. I have not thought it worth while recording those cases in which the lower end of the kidney only could be felt—they are so numerous. A certain degree of mobility is perfectly normal. To call a kidney of which one can merely feel the lower end below the ribs a "dropped" or "dislocated" kidney is a "terminological inexactitude."

With this preliminary clearing of the ground I shall now proceed to give you some of the results of my examinations. First, 2801 females of all ages were examined. Among these there were 449 cases in which the kidneys were palpable, as I have defined it, and 515 in which the kidneys were moveable. That is to say, that in 16 per cent. the kidneys were palpable only, and in an additional 18·4 per cent. they were not only palpable but freely moveable. Secondly, 1067 males of all ages were examined. Among these were 25 cases in which the kidneys were palpable and 11 cases in which they were moveable, or 2·3 per cent. of palpable kidneys and 1 per cent. of moveable. I have made out tables, which I shall append, giving the exact numbers examined at different ages, with the results, of which I shall here give a short summary, with some details which are of interest.

Under the age of 12 years I met with no case in which the kidneys were moveable. 99 female children under 12 years of age were examined. In ten the kidneys were palpable, but none came into the moveable group. Between the ages of 13 and 16, 136 females were examined, among whom 19 cases of palpable kidneys were found and seven moveable. The earliest age at which I found a moveable kidney was 13 years. 293 females between 17 and 19 years of age were examined, among whom were 42 cases of palpable and 35 cases of moveable kidneys. Thus of quite young women 12 per cent. had moveable kidneys. Between 20 and 22 years of age about the same proportions were met with. Among 333 females between these ages there were 49 cases of palpable and 42 cases of moveable kidneys, or 12·6 per cent. When we get over the age of 22 years there is a remarkable increase in the proportion of cases. Of females between the ages of 23 and 29 years 647 were examined, among whom were 120 cases of palpable and 139 cases of moveable kidneys, so that the proportion of moveable kidneys has risen to 21·4 per cent. Between the ages of 30 and 37 years 612 females were examined, among whom were 109 cases of palpable and 165 cases of moveable kidneys, a proportion of nearly 27 per cent.—that is to say, that between these ages one out of every three or four women examined had moveable kidneys. After the age of 37 years the proportion declines again. 569 women between 38 and 54 years of age were examined, among whom were 90 cases of palpable and 111 cases of moveable kidneys, a proportion of just about 20 per cent. Between the ages of 55 and 86 years 112 females were examined, with 10 cases of palpable and 16 of moveable kidneys, the proportion thus having fallen to 14 per cent.

Among the males no case of moveable kidney was met with under 20 years of age. The highest proportion was between the ages of 30 and 40 years, five cases occurring among 282 men, or nearly 2 per cent.

The only series of cases known to me which can challenge comparison with my own is that of Glénard, who examined 4215 patients and found among them 537 cases of moveable kidney. There were 485 cases among 2202 women and 52 cases among 2013 men—that is, 22 per cent. among the women, and 2·7 per cent. for the men. These figures are in striking agreement with my own. Lindner's statement that one out of every five or six women has a moveable kidney is strictly correct if we modify it as follows:—One out of every five female patients has a moveable kidney. Lindner adds with perfect truth that it is the most frequent anomaly in the female subject. Such statistics as those of Senator and Skórczewsky, quoted by Professor A. Macalister in his article in Allbutt's System, must have been founded on very imperfect examinations. The former states that moveable kidney is as common among the rich as among the poor and but one case is met with among 139 sick women. The latter gives the proportion as 3·1 per cent. among females and 0·76 per cent. among males. On the other hand, an observer who makes the astonishing statement that of 100 women and 100 men whom he had seen during the past few weeks in private 42 women and six men had dropped kidney may be said to have a somewhat exaggerated idea of what constitutes that condition.

With regard to moveable kidney in young children, the number of cases I have examined may, perhaps, seem small. Still, I think the conclusion is warranted that in children under 12 years of age moveable kidney is rare. Legendre carefully examined a large number of children, and only found one case in a girl aged 14 years, who had mobility of the left kidney of the first degree. Cases in young children have been recorded, however, by good observers. Of the 526 cases of moveable kidney, there was only one case where the mobility was only on the left side. In 49 cases the kidneys were moveable on both sides. In 476 cases the mobility was abnormal only on the right side. The patients examined were suffering from a variety of complaints, and it is instructive to note the proportions in the different maladies. There were 138 cases of morbus cordis, and of these there were 34 cases of moveable kidney, or 24·6 per cent., which, curiously, is the highest percentage. There were 602 cases of dyspepsia with 143 cases of moveable kidney, or 23·7 per cent. There were 463 cases of pulmonary tuberculosis with 101 cases of moveable kidney, or 21·8 per cent. There were 562 cases of bronchial catarrh with 91 cases of moveable kidney, or 16·2 per cent. There were 354 miscellaneous cases with 83 cases of moveable kidney, or 23·4 per cent. There were 128 cases of anæmia with 11 cases of moveable kidney, or 8·6 per cent. It appears, therefore, that those suffering from chest complaints contributed even more than their due share of cases of moveable kidney, and there is no ground for supposing that those patients who suffered from dyspepsia owed their digestive trouble to the abnormal condition of their kidneys.

It has long been supposed that child-bearing has an important influence in the production of abnormal kidney mobility, but my investigations do not lend much support to this supposition. Age, I think, is a much more important factor. 211 women from 18 years of age upwards who had borne one child were examined. Of these 50 had moveable kidneys, or 23·7 per cent. 199 women from 19 years of age upwards who had borne two children were examined. Of these 63 had moveable kidneys, or 31·6 per cent. This, it is true, is a very high proportion, but the proportion becomes smaller again with a larger number of pregnancies. Thus 173 women from 21 years of age upwards who had borne three children contributed 52 cases of moveable kidney, or

30 per cent. Among 133 women from 24 years upwards who had borne four children, there were 24 cases, or only 18 per cent.; among 93 women from 26 years upwards who had had five children there were 21 cases, or 22·5 per cent.; among 158 women from 27 years upwards who had had six or seven children there were only 22 cases, or 13·9 per cent.; and among 174 women from 34 years upwards who had had eight or more children there were 29 cases, or 16·6 per cent. On the whole, therefore, the influence of child-bearing on the production of moveable kidney is not very great. This conclusion agrees with the statistics of Lindner and the experience of Edebohls, Kuttner, and Walch.

Among the causes of abnormal kidney mobility the influence of corsets, tight-lacing, and dress has been considered as important. I do not think, however, that the class from which my patients have been drawn can be accused of tight-lacing to any great extent. Edebohls maintains that tight-lacing is the most effective agent which can be applied to maintain a kidney in its normal position. Laxity of the abdominal walls cannot play a very important rôle, for its most common cause; repeated child-bearing, as we have seen, has no decided influence. Probably absorption or atrophy of the perirenal fat has an important influence, and certainly the condition is more often met with in wasted individuals. Sex, however, is in some way the most important factor in causation, and Bacquet's suggestion that an increase of volume of the kidney at the catamenial period plays a part in causation may have some truth in it. The mobility may be produced suddenly as the result of strain or traumatism, of which clinically one occasionally meets with undoubted instances. In those rare cases where there is a meso-nephron the abnormal mobility is obviously a congenital condition. The reason why the right kidney is so much more frequently moveable than the left is no doubt anatomical. The liver tends to displace the right, the pancreas to support the left. The rarity of moveable kidney in children is probably due to the fact that the tissue of the capsule of the kidney until the tenth year is simply areolar and does not become filled with fat until after that age.

Symptoms.—Out of 515 cases with the high degree of mobility which I have defined, no fewer than 411 had no symptoms which with any reasonableness could be attributed to the condition of the kidneys. This supports what Professor Osler has said, that in a majority of the cases there are no symptoms whatever. One might truly say in a vast majority. Now what is the right course to adopt when we find a freely moveable kidney which produces no trouble of any kind? I think it is best that we should tell the patient that the kidney is moveable but explain that it is a common condition among women, that it is giving no trouble, may possibly never give any trouble, and at the present time requires no treatment. There is always the risk of such a patient falling into the hands of somebody who will want to treat the condition, in spite of the absence of symptoms, and the patient will think you have missed something of importance. One of my hospital patients having heard me say that she had a moveable kidney went to another hospital and was operated on by an eminent surgeon. She came back afterwards to tell me she was no better for the operation. As she had had no symptoms referable to the kidney I did not expect she would be. While a moveable kidney may have given no trouble up to the time it is discovered by the physician there is always the possibility of trouble arising in the future. A caution should always be given against lifting heavy weights or straining the abdomen. I do not consider it is necessary to put restrictions on ordinary modes of exercise, but I think cycling and working a foot sewing machine are likely to do harm

I saw recently a woman, aged 38 years, who during the last year had had symptoms arising from a freely moveable right kidney. She told me that when she was 18 years of age she had been informed that she had a "floating kidney" Nothing had been done for it and she had thus remained free from symptoms for over 18 years.

In 104 cases the mobility of the kidneys was the cause of symptoms varying in degree. By far the most constant symptom, the symptom almost invariably present if symptoms were present at all, was pain. The pain was usually referred to the right lumbar region behind but sometimes more to the middle or all round the back, sometimes to the right hip or thigh or down the leg, sometimes in front to the right iliac fossa, sometimes to the epigastrium, sometimes to the ovarian region or to the groin. In 15 cases the pain was only felt in the left lumbar region. In seven of these cases both kidneys were moveable but in the other eight the right kidney alone was freely moveable. In some other instances where both kidneys were moveable pain was felt on both sides but was worse on the left. The pain was usually of a dragging or dull aching or bearing-down character, but sometimes more severe stabbing or sharp knife-like pains were experienced. Patients have described the pain to me as so severe as to double them up. The pain is, as a rule, not constant, but comes and goes. The pain is made worse or may only be experienced after walking or standing, or working a sewing-machine, or after a hard day's work. The pain may be induced or aggravated by coughing. It is usually much relieved or disappears altogether on lying down, but sometimes posture fails to give ease and on account of the pain the patient may lie awake all night. Usually the most comfortable position is on the right side with the legs drawn up or lying on the back. The pain is sometimes aggravated at the menstrual periods.

The following are characteristic accounts obtained from patients: "The pain in the right flank has occurred when the patient has had much standing and has generally been absent on Saturday and Sunday when she is not at work. The pain is of a jumping character as if something were moving about inside." "There has been a dragging pain in the right side for about a year. It is worse after exercise and sometimes is attended with a feeling of sickness. Sometimes the pain lasts for days. The onset of the pain is related to what the patient has been doing. Working a hand sewing-machine always makes it worse. Walking, scrubbing, &c., also produces this effect. Rest always relieves it. Great relief was obtained from a pad and bandage."

Edebohls has described as a characteristic symptom epigastric pain, independent of food, situated at a point five to six centimetres to the left of the median line at or near the free border of the left costal cartilage, but I have met with no examples of this. Very few of the patients included in this investigation were conscious of the presence of any tumour. One patient, in whom the kidney could be displaced to the right iliac fossa, had discovered that a lump of the size of a hen's egg made its appearance above the groin when she had an attack of pain. The attack of pain was accompanied by retching and sickness and the passage of a large quantity of urine. The attack would last about eight hours and when it passed off the lump would disappear with a click. Another patient said that she was conscious of the presence of a lump in the right kidney region on coughing and straining; another that a lump came above the right groin when she lifted anything. Two other patients said that they were conscious of the presence of a lump in the right side of the abdomen. Another patient, a woman, aged 46 years, whose left kidney alone was moveable, complained of pain and swelling on the left side of the "stomach," the swelling having gradually become large. Another patient, who had a freely moveable right kidney, suffered from attacks of pain in the right lower abdomen and said that she had the sensation of a lump resting on the hip bone when the attack was on. In six cases freely moveable kidneys have been associated with an irritable condition of the bladder and a frequent and irresistible desire to micturate.

As long as we are dealing with local symptoms we are on sure ground. The symptoms are unmistakable. They disappear, as a rule, with rest in the proper position and can be cured or alleviated by suitable support to the erring organ. But when we come to the long list of symptoms with the production of which moveable kidneys have been credited we must preserve a judicial mind and sift the evidence such as it is. A large number of the patients who consult us suffer from dyspepsia, but the proportion of dyspeptics who have moveable kidneys is no larger than that of patients suffering from pulmonary tuberculosis or morbus cordis. The connexion of dyspepsia with moveable kidneys is not, therefore, one of effect and cause. In a certain number of cases we find the abnormal mobility of the kidneys associated with dropping of other abdominal organs, and the dropping of the stomach is connected with troublesome dyspepsia, but the treatment of the kidney condition alone will not cure that. In a good many instances, however, we learnt that the patient had suffered from attacks of vomiting which were clearly the result of the displacement of the kidneys. These attacks were accompanied with a feeling of sickening pain in the renal region and the vomiting passed off when the pain did. These were examples of Dietl's crises. When we have an opportunity of examining the patient during an attack we find, in addition to the subjective pain, swelling and tenderness of the affected kidney.

One patient, a woman, aged 22 years, suffered from very marked symptoms of this kind. At the age of 19 years she was in bed on and off for ten months with pain more or less generally diffused over the abdomen, but worse in the region of the left kidney, and with frequent attacks of sickness. She had a second similar attack lasting two or three months two years later. Both kidneys were very freely moveable.

All kinds of nervous symptoms have been attributed to moveable kidneys. Even locomotor ataxy has been thought to have a causal connexion, because someone found six cases of moveable kidney among 24 women suffering from locomotor ataxy, which is just the proper proportion. Migraine, vertigo, all kinds of neuralgias, epilepsy, neurasthenia, hypochondriasis, and various forms of insanity have been at divers times referred to moveable kidneys as their cause. Search among these cases and you will find the same proportion of moveable kidneys as in other complaints, but there is not a tittle of evidence that there is any causal relation between them. In an unusually large proportion of cases of neurasthenia moveable kidneys are no doubt to be found, but there were not more than about ten of such cases in the present series. Osler has truly said that "in a thin person, male or female, who presents the general symptoms of neurasthenia, you will be almost certain to find, on examination, mobility of one or other or of both of the kidneys." The patient who comes with the "petits papiers" of Charcot is almost certain to have moveable kidney. The knowledge that they have moveable kidneys is to some patients a source of mental distress.

Dislocation of the kidney may take place more or less suddenly. A typical history is as follows. While lifting a heavy table a girl, aged 17 years, was seized with severe pain in the right loin, worse at the back but passing down round to the iliac region. The attacks of pain lasted about 24 hours. Poultices, &c., were applied to relieve the pain. Since that time similar attacks occurred at intervals, one lasting as long as three days. The right kidney was freely moveable. Another patient, a girl, aged 18 years, who had had aching pain in the right loin for about three months, was seized with acute pain in the same situation while lifting furniture, the pain being so severe that she fell down. In another case, a girl, aged 20 years, while standing at work was suddenly seized with such acute pain in the right loin that she nearly fell to the ground and became covered with a cold, clammy sweat. From that time she continued to suffer more or less from pain in the right loin. Another patient, a woman, aged 30 years, attributed her trouble to lifting her husband out of bed. Pain in the right side came on then and persisted from that time. Her right kidney was found to be very freely moveable.

I append here in tabular form details of the female and male cases examined, giving the numbers of the former examined at different ages and the proportion of palpable and moveable kidneys found, as well as the numbers in which symptoms were present as the result of the kidney condition.

Treatment.—The vast majority of the cases had, as I have pointed out, no symptoms connected with the kidney condition and required no treatment for it. I have already indicated the nature of the advice which I consider should be given to such patients. Cases in which the patient suffers from attacks of pain of only occasional occurrence are best treated by rest in the position which the patient instinctively assumes as the most comfortable—namely, on the back or on the side of the affected organ. The local application of heat by hot-water bottle or hot fomentations, or of preparations of belladonna are useful in relieving severe pain. In cases where the pain is wearing and persistent, rest in bed should be insisted on for some time. In thin and neurasthenic subjects an attempt should be made to improve their nutrition and general condition. Prolonged rest, good feeding, and general massage sometimes prove very beneficial. The kidney may settle down into its proper situation, and with an increase of the body fat be better supported when the patient gets about again. A pad and bandage will often afford great relief when the patient is up and about, and in the slighter cases the patient need only wear it when she is about to make some unusual exertion. Many of the kidney belts are cumbrous and unsatisfactory and fail to give relief. The appliance which I have found most efficient is of the nature of a spring truss, and keeps the kidney in position by properly applied pressure of the spring. Some patients are entirely relieved from their symptoms by such an apparatus.

It is interesting to note that of the patients who had symptoms there was not one in this series in whom the

Table of Female Cases.

Years of age.	Number examined.	Palpable.	Moveable.	Symptoms present.
3	2	—	—	—
4	2	—	—	—
5	8	—	—	—
6	12	—	—	—
7	15	1	—	—
8	8	2	—	—
9	11	—	—	—
10	9	1	—	—
11	19	1	—	—
12	13	5	—	—
13	15	2	1	—
14	19	4	1	1
15	41	4	2	—
16	61	9	3	—
17	87	17	13 (1*d*)	4
18	92	8	11	2
19	114	17	11	2
20	116	16	13	1
21	116	13	10	2
22	101	20	19 (1*d*)	6
23	85	18	20	3
24	100	13	19	3
25	93	22	17	4
26	93	20	14 (1*d*)	3
27	92	15	19	1
28	97	18	25 (2*d*)	4
29	87	14	25 (1*d*)	5
30	95	21	22	2
31	63	5	18 (1*d*	7
32	76	14	21 (1*d*)	4
33	78	10 (1*d*)	21 (1*d*)	4
34	79	15	19	2
35	78	11	18 (2*d*)	4
36	75	20	26 (1*d*)	6
37	70	13	20 (1*d*)	5
38	57	13	8	1
39	58	9	15 (1*d*)	3
40	46	7	6	—
41	33	3	7 (1L)	2
42	52	10	8	1
43	39	3	6	1
44	27	5	5	1
45	33	4	4	—
46	28	4	8	4
47	35	5	8	3
48	31	3	9	2
49	28	7	6 (1*d*)	3
50	30	4	6 (1*d*)	3
51	15	7	4	1
52	17	2	2	1
53	25	4	7	1
54	15	—	2	1
55	15	2	3 (1*d*)	—
56	4	1	1	—
57	10	—	1	—
58	9	1	2	—
59	11	—	2	—
60	6	—	—	—
61	5	1	—	—
62	10	1	2	1
63	10	1	3	—
64	12	—	—	—
65-86	20	3	2	—
Totals at all ages... ...	2801	449 16 per cent.	515 18 4 per cent.	104 3·7 per cent.

Table of Male Cases.

Years of age.	Number examined.	Number palpable.	Number moveable.
Under 5	1	—	—
10	17	—	—
15	33	—	—
20	127	2	—
25	166	3	1
30	182	6	2
35	166		3
40	116	1	2
45	89	4	1
50	65	3	—
60	84	3	2
Over 60	21	—	—

Total 1067 cases. 25 palpable; 2·3 per cent. 11 moveable; 1 per cent.

symptoms were so severe or serious as to call for surgical treatment. I can recollect very few cases altogether in which I have advised patients to undergo an operation. I am inclined to think that most of the cases which surgeons operate on go to them directly and not through the advice of a physician. When I have a case where the symptoms are severe and persistent and do not yield to medical treatment, I am glad to seek the help of the surgeon. But I should always advise recourse to other methods of treatment first. While I have no doubt that the results of surgical fixation of the kidney are sometimes most excellent, the operation is not uniformly successful, and is not altogether free from risk to life. Just the other day I got a letter from a friend in the country which contained the following brief report: "I have been so much occupied this last week, as I have had a poor girl staying with us whose mother died in the nursing home at ..... . She underwent an operation for floating kidney and died a fortnight after. It is really very sad, as she leaves a large family."

I must leave it to surgeons to describe the methods and indications for operation. I may, however, give a short summary of the results in 131 cases which I have collected from literature. Out of 131 recorded cases operated on by eminent surgeons, nephrorrhaphy or nephropexy was performed 113 times, with a successful issue in 80 cases, but in some of these the time which had elapsed after the operation was too short to enable one to judge of the real result. In 17 cases partial relief only followed, and in 13 the result was failure, and in five of these subsequent nephrectomy was performed with a successful issue. In three cases there was a fatal result. Nephrectomy was performed as the primary operation in 18 cases: 14 were successful; one was a failure; three proved fatal. In these cases which were operated on pain was an almost invariable symptom. Dietl's crises were recorded in two cases; vomiting was recorded in 11; irregular micturition in one; the presence of a tumour was noted in 10; and mental distress on account of the tumour in one. There is one surgeon who seems to have operated in a large proportion of his recorded cases on account of such symptoms as nervousness and dyspepsia.

As it is now eight years since I collected from what was then recent literature the above series of cases operated on, I have consulted the surgical reports of St. Thomas's Hospital for the six years ending December, 1905, and I wish to add that the results of operation appear to be much better in recent years than they were previously. Of 106 cases of nephroptosis admitted to the surgical wards of St. Thomas's Hospital during these years, 80 cases were operated on without a single death. In 73 cases the operation was nephropexy, in three nephropexy was combined with nephrotomy, in one the operation was a lumbar incision and packing with gauze, in one nephropexy was followed by subsequent nephrectomy, and in two nephrotomy alone was performed.

In conclusion, I may repeat that moveable kidney is undoubtedly a very common condition in the female subject, that in the great majority of cases it produces no symptoms and that it requires no treatment when local symptoms are absent. When symptoms are present a fair trial should be made of non-operative methods of treatment. Only when such methods have failed to relieve, or when there is reason to believe that the kidney is the seat of disease, should recourse be had to operation.

Upper Brook-street, W.

ROENTGEN RAYS AS AN AID TO THE DIAGNOSIS OF STRICTURE OF THE ŒSOPHAGUS.

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THE method adopted is as follows. The observer stands inside a dark sentinel-box for ten minutes before the observation is made: this is essential if his vision is to be at its best; the screen, on a moveable frame, is let into one side of the sentinel-box; the patient is stationed in front of it, either with the anterior surface of his chest towards the screen or, which often gives better results, with his right lateral chest against it and the right arm uplifted. When all is ready the patient takes a mouthful of thick emulsion of bismuth and when the word is given by the observer swallows it.

The illustrations accurately represent two cases. They were sketched in the rough on a piece of transparent paper fixed against the screen. artially finished drawings were then made and were corrected by subsequent observations.

CASE 1.—In Case 1 as each mouthful of bismuth was swallowed a definite black mass appeared at A and moved downwards, manifesting as it did so a fainter, though still definite, shadow, as shown in Fig. 1. At B a black pouch appeared which became darker and bigger as subsequent mouthfuls were swallowed. When this pouch, B, became sufficiently distended, suddenly one saw a black stream, C D, shoot forth from the centre of the lower end and make its way quickly downwards through the diaphragm E. This stream shot out like a rocket and for some reason was interrupted as shown in the illustration. The observation was made with the patient's right lateral chest against the screen, with the right arm upraised. F represents the faint shadow of the heart. The stricture was evidently a considerable one opposite the fifth dorsal vertebra and the œsophagus was dilated above it. The illustration explains why a bougie would sometimes get through the stricture and at other times not, for it would only get through if it happened to hit the aperture in the centre of the sac.

The examination by means of the screen was in this case particularly helpful from the fact that early in the illness the patient brought up, after a bougie had been gently and cautiously passed, a large quantity of blood. The patient stated the quantity of blood to be four quarts (which was probably an exaggeration), and according to his description it was regurgitated rather than vomited. The possibility, therefore, of the difficulty of swallowing being due to aneurysm was a real one, otherwise there was nothing peculiar about the history. The patient was 54 years of age; he had increasing difficulty of swallowing, with slight pain referred to the inferior angle of the right scapula, regurgitation of food, and wasting. Bougies stopped 13 inches from the teeth. He died from septic pneumonia, his illness having lasted about a year. The necropsy confirmed the diagnosis of carcinoma of the œsophagus, the septic pneumonia having been caused by ulceration into the left bronchus.

CASE 2.—The observation was made with the left side of the patient against the screen. In this case the bismuth as it was swallowed mapped out the track A B and was evidently arrested at the level of the diaphragm E. There was some dilatation at B but considerably less than in the preceding case. A faint shadow of the heart was seen at C. The illustration (Fig. 2) discloses a further matter of interest: the light area F beneath the diaphragm E is the upper portion of the stomach filled with air, and the level surface, H, limiting this light area below was fluid, occupying the lower portion of the stomach, and when the patient was shaken waves could be distinctly seen on the surface of the fluid. Incidentally it may be remarked that a very efficient way of mapping out the position of the stomach is to inflate it with gas in front of a screen. I have frequently adopted this method and have found it useful.

The clinical features of this case pointed to an obstruction of the œsophagus at its extreme lower end. A No. 23 bougie was stopped at 17 inches from the teeth; smaller bougies were similarly stopped, but No. 11, having first encountered resistance, was felt to ride over something hard and to go

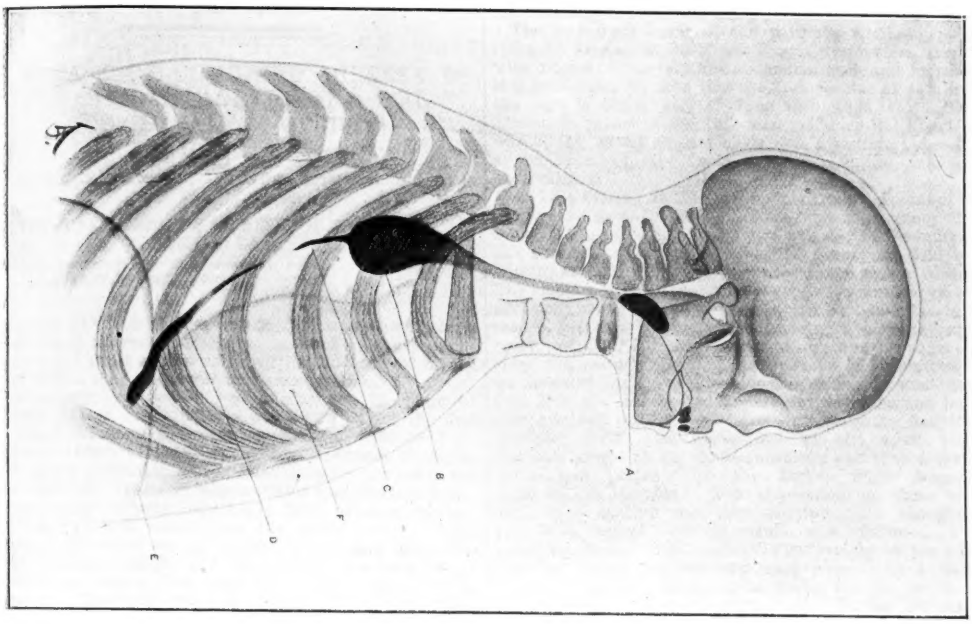

FIG. 1.

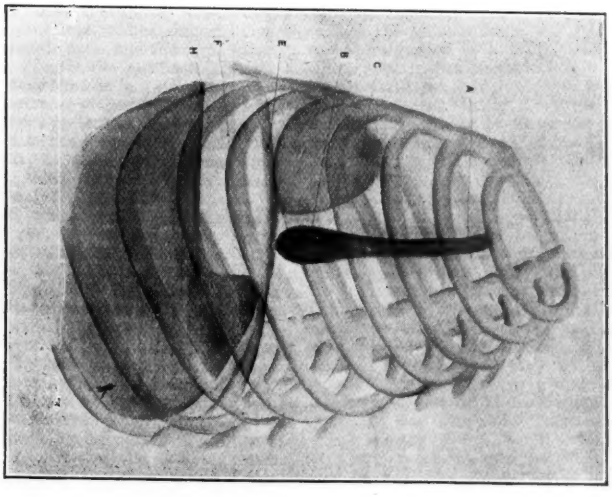

FIG. 2.

DESCRIPTION OF ILLUSTRATIONS.

In Fig. 1, A, B, C, D, and E mark the stages of the descent of the bismuth as described in the text. F shows the faint shadow of the heart.

In Fig. 2, A B marks the track of the bismuth. At C is the faint shadow of the heart. F marks the diaphragm, and the light area beneath it is a portion of the stomach filled with air. The level surface at H is the upper surface of fluid in the stomach.

easily into the stomach. The cause of the obstruction was carcinoma and this was confirmed at the necropsy.

I should like to add that for the accompanying illustrations I am indebted to the skill of my house physician, Mr. J. Elrick Adler.

Wimpole-street, W.

ON A CASE OF COMBINED DISEASE OF THE MITRAL, AORTIC, AND TRICUSPID VALVES OF THE HEART,

IN WHICH THE PATIENT WAS UNDER HOSPITAL OBSERVATION FOR 25 YEARS.[1]

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THE case to which I have now to direct your attention is one of great interest not only on account of the changes found in the heart at the necropsy but on account of the length of time the patient was under observation.

The patient, who was a coal-miner, was 28 years of age when on Nov. 14th, 1881, he was admitted for the first time into the General Infirmary under the care of Dr. J. E. Eddison. At this time Dr. A. G. Barrs was house physician and from his admirable and concise notes we learn that the patient had had rheumatic fever on three occasions, 14 years, 10 years, and 12 months respectively, prior to his admission, and that the first attack was the most severe. Some dyspnœa had existed for 12 months, and though there was neither œdema, cough, nor hæmoptysis the increase of dyspnœa had made him stop work seven weeks before admission. The chest was well shaped. There was a little systolic jarring of the anterior wall. The cardiac impulse was visible in the sixth space, four and a half inches from the middle line, and it was increased in force and "studied." On auscultation there was a long high-pitched systolic murmur at the apex, easily traced up to the base with diminishing intensity, and audible as far outwards as the mid-axillary line but not at the back of the chest. In the aortic area this bruit was followed by a fine long diastolic murmur, which was scarcely audible at the lower part of the sternum. The pulse was regular but small and did not suggest an aortic leak, and under date of Nov. 21st we find it noted that the second sound at the base was clear.

The first time the patient came under my observation was in May, 1884, when he was admitted under the care of Dr. T. Churton during the time that I was resident medical officer. He had had another attack of rheumatic fever and the signs were those of mitral regurgitation. There was no diastolic bruit and the systolic bruit was transmitted as far, and only as far, as the mid-axillary line. For some years after this I saw him from time to time in the out-patient rooms of the infirmary, but I have no further documentary evidence of his condition until May, 1897, when he appeared among my out-patients at the Leeds Public Dispensary. My notes record a diagnosis of mitral regurgitation and it is stated that the second sound was doubled. During the next few years he would probably be frequently examined, but it is not until April, 1902, that I find noted by myself, "Great venous distension and pulsation in neck, liver enlarged and pulsatile." On May 13th of the same year my notes record for the first time the existence of a diastolic bruit at the apex associated with a thrill, neither bruit nor thrill lasting until the following ventricular impulse. The second sound is noted as clear at the base and the systolic bruit as being very distinct at the lower part of the sternum. At the end of my notes on this date I have written: "Mitral regurgitation and stenosis and tricuspid regurgitation." In July of the following year I find the following note: "I am much struck to-day by the loud, rough, diastolic bruit at the apex, which does not run up to the first sound. It must be mitral in origin." From this time until his admission into the infirmary under my care on August 3rd, 1905, I have no notes of his condition though I saw him frequently. I remember that my diagnosis of tricuspid regurgitation gained confirmation every time I looked at the distended veins of his neck, with their marked pulsation, a pulsation which was essentially systolic in rhythm, though undulatory movements, impossible to time accurately by the unaided senses, could also be made out.

The immediate cause of the patient's admission to the infirmary in August, 1905, was cough, dyspnœa on exertion, with œdema of the legs and abdominal wall, and in passing it is interesting to note that the first mention of swelling of the legs is under date of June 16th, 1903. A full and admirable record of the case was made by Mr. Hessle who was acting as my clinical clerk and I wish to express my appreciation of the care with which he made his observations.

As I am looking at this case mainly from the point of view of physical signs I may briefly state that the urgency of the symptoms lessened during the patient's stay in the infirmary. His abdomen was tapped twice, 60 ounces of fluid being withdrawn on the first and 70 ounces on the second occasion. The amount of urine passed was below the normal; on some occasions it was only 14 ounces in the 24 hours, but in this respect there was marked improvement and there are frequent records of 40 or 50 ounces being passed, and on some occasions the quantity amounted to upwards of 60 ounces. At no time was there any albuminuria. When he went out on Oct. 26th the œdema had almost entirely gone and he was comparatively comfortable. From the notes we find that a diastolic thrill was made out at the apex with a distinct shock at its commencement and that a systolic thrill was palpable in the fourth right interspace close to the sternum. The alternation of these thrills with one another was very striking. On auscultation the loud apical systolic bruit was followed by a rumbling diastolic bruit which did not run up to the following first sound but was separated from it by a distinct interval. So far as could be made out the aortic and pulmonary second sounds were clear. During his stay in the infirmary the venous pulsation in the neck, of the character I have already described, was very striking and was the subject of frequent comment. On his discharge I appended to the record of the case the following note: "I desire in this case to commit myself to a diagnosis of mitral stenosis and of tricuspid regurgitation, the latter due not merely to dilatation of the orifice but to organic disease of the valve." I had frequently impressed on my class the importance of recognising in a rumbling diastolic bruit at the apex evidence of mitral stenosis almost, if not quite, as strong as the crescendo bruit which is usually regarded as occupying the period of auricular systole and which runs right up to the first sound of the heart. That there was tricuspid regurgitation was very manifest, and my main reasons for diagnosing organic disease of the valve and not mere dilatation were that the systolic bruit was extremely harsh and that it was accompanied by a thrill, peculiarities which do not, I think, exist in the regurgitation of mere dilatation. The bruit and thrill were attributed to tricuspid regurgitation, which could be confidently diagnosed from the venous pulsation alone, rather than to an aortic obstructive lesion, for they were much more marked at the level of the fourth space than higher up and the bruit was widely diffused to the right.

The patient was again admitted under my care on Jan. 1st 1906, and remained in until August 21st. He had very soon again become waterlogged after his return home and though there were occasional periods of improvement his condition during his stay in the infirmary was pitiable. Haggard, sallow, with extensive anasarca, frequently with urgent dyspnœa, and with a strange mixture of cheerfulness and very justifiable petulance, he must have been a familiar figure to many of you as he lay in the top bed of No. 6 ward. By repeated tappings of the abdomen, by the use of Southey's trocars, and by aspiration of the right pleura on one or two occasions, some palliation of his symptoms was obtained. There was great diminution of the urinary flow, for the largest amount of water he ever passed in one period of 24 hours was only 26 ounces and very frequently it was as low as ten ounces. On one occasion only was albumin found in the urine. Digitalis, which in the earlier stages of his malady had been of benefit, failed to increase the urinary secretion; other drugs were equally inefficacious and I attribute the totally unexpected prolongation of his life during these tedious months to the careful nursing which he received.

[1] Part of a clinical lecture delivered at the General Infirmary at Leeds on June 7th, 1907.

During a period of temporary improvement he decided to go home. He left the infirmary on August 21st but died within 36 hours. He was 52 years of age and had been under observation more or less continuously for a quarter of a century.

During the patient's stay in the infirmary on this last occasion there is special reference to an increase of the cardiac dulness to the right of the sternum, as well as to the great increase to the left which had formerly been noticed. I do not suggest that this increase of cardiac dulness to the right was a new phenomenon but I think it must have become more marked. There was also marked increase of dulness in the upward direction to the left of the sternum. The pulsation in the veins of the neck was a constant feature. I thought, however, and commented on it frequently, that there was not the same degree of emptying of the veins between the successive systolic maxima of distension as I had noticed when he was in the infirmary before. On March 4th I made the following note: "Diastolic thrill at apex ceasing just before the beat; little, if any, systolic thrill at apex; well-marked systolic thrill over lower sternal region getting lost as one passes upwards. The bruits harmonise with these signs. There is an interval between the diastolic bruit at the apex and the following first sound and systolic bruit. The second sound in the aortic area is indistinct; at the pulmonary area it is sometimes doubled. There is not any diastolic or presystolic bruit in the lower sternal region." On August 17th, after he had decided to go out, I again examined him fully and dictated the following notes, among others, of a more general character: "There is marked systolic venous pulsation in the great veins at the root of the neck and below the clavicles. This is especially noticeable in the distended lower part of the internal jugular vein. The cardiac impulse is visible over a very large area and can be felt at its maximum posterior to the anterior axillary line in the seventh intercostal space. Here there is a well-marked diastolic thrill, and there is also in this position a loud systolic bruit followed by a diastolic, but there is no distinct crescendo presystolic bruit. At the lower part of the sternum, but decidedly more distinct to the right of that bone than to its left, there is a distinct systolic thrill and a systolic bruit whose maxima are both over the junction of the fourth right costal cartilage with the sternum. The bruit can be heard over the aortic cartilage but not so well as further down. There is true doubling of the second sound audible in the pulmonary region and below this. The second sound is not audible in the aortic area. There is no doubt that there is an area between the points of maximum intensity of the systolic bruits which are heard in the mitral and tricuspid areas where the bruit is less distinct than at either of these positions. There are therefore two points of production and the bruits are likewise different in character at their two points of maximum intensity. I think also that the systolic bruit at the lower part of the sternum begins roughly and this may represent a rudimentary presystolic bruit. I desire again to commit myself to a diagnosis not only of mitral stenosis but also of organic disease of the tricuspid valve leading to regurgitation and almost certainly associated with some degree of stenosis."

I was, fortunately, enabled to obtain the heart for examination, but a complete necropsy was not permitted. On opening the pericardial sac, which was free from effusion, the most striking feature presented by the heart was the enormous enlargement of the right auricle which formed overwhelmingly the greatest part of the heart, as seen from the front. Measured from the opening of the inferior vena cava to the tip of the appendix in the distended condition of the cavity the distance was nine and a half inches, and subsequent investigations demonstrated that the capacity of the right auricular cavity was about 35 fluid ounces. The great upward increase of the cardiac dulness to the left of the sternum was clearly to be attributed to the extension of the right auricle under this part of the chest wall, and not, as is usually the case, to the dilated conus arteriosus of the right ventricle. There was evidence of chronic pericarditis with fibrosis widely distributed over the surfaces of the various cavities of the heart. Subsequent examination showed that the left auricle was also immensely dilated, though its cavity was not so great as that of the right. In each case a striking feature is, as you can see on inspection of the specimen which lies on the table, the relatively small amount of muscle in the walls of these immense cavities. I will not go so far as to say that the total amount of muscular tissue is actually much less than in a healthy heart of ordinary dimensions, but it is spread out in a thin layer and the auricular walls between the fasciculi of the musculi pectinati are of unusual tenuity. Large areas of the auricular wall appear to be entirely devoid of muscular tissue and to have undergone fibroid changes, and one cannot avoid the conviction that these two immense chambers were in the economy of the circulation little more than reservoirs whose power of expelling their blood by active contraction was almost a negligible quantity, and which in virtue of the incompetence of the mitral and tricuspid valves must have been to a great extent at the mercy of the contracting ventricles. You will see that the pathological processes which have affected the mitral and tricuspid valves are identical in nature; in both there is some stenosis of the aperture with thickening of the tissue of the valve and with shortening and thickening of the chordæ tendineæ. The mitral aperture is the smaller and admits of the passage of one's forefinger with some difficulty; the tricuspid admits the extremities of two fingers.

It is clear that considerable incompetence must have existed at these two orifices; the margins of the segments cannot be made to meet and there must, I think, have been but little difference in the size of either aperture during the various phases of the cardiac cycle. There is marked hypertrophy of the wall of each ventricle, and in this change the right ventricle has gained upon the left, for the disproportion which normally exists between the amount of muscle on the two sides is not maintained. Dr. S. G. Scott has kindly made a histological examination of portions of the muscle of each ventricle and he reports that there are not any signs of degeneration of the fibres. The amount of dilatation of the left ventricle is comparatively slight; that of the right is decided without being excessive. The pulmonary valves are normal. The aortic segments are thickened at their free margins and there is some confluence of the anterior and postero-right segment, so that the sectional area of the exit must have been somewhat lessened. There is a lack of perfect apposition at the point where the three segments of the valve should meet in the centre, and I think there must have been a very slight degree of incompetence. This is a point of great interest in the case. You will remember that a diastolic bruit of aortic character was noted by Dr. Barrs in 1831 but that before the patient's discharge the second sound was stated to be clear. No diastolic bruit of a kind suggesting aortic regurgitation was ever subsequently detected and on many occasions the second sound in the aortic area was noted as clear. Sometimes it happens that the diastolic bruit of an aortic leak is audible only towards the apex of the heart, and a faint whiff may in this case have been lost in the early diastolic rumbling bruit of the mitral stenotic lesion, while we must also remember that the imperfect filling of the aorta in consequence of the mitral lesion would result in a lowering of the arterial pressure and therefore in a condition unfavourable to the development of a diastolic murmur. What more useful lesson could we have as to the value of an accurate record of facts than the confirmation by necropsy of an isolated observation made a quarter of a century previously?

I have especially pointed out that neither in the mitral nor in the tricuspid area was there ever a crescendo bruit immediately preceding the cardiac impulse. This crescendo bruit is usually referred to as a late diastolic or presystolic bruit, and most observers follow Sir William Gairdner in attributing it to the passage of blood through a narrow auriculo-ventricular orifice under the pressure of the contracting auricle. Some observers hold that the bruit in question is of very early systolic rhythm and due to regurgitation through the auriculo-ventricular aperture, and Dr. E. M. Brockbank[2] of Manchester has with great ability supported a modification of this view, for he holds that the crescendo bruit is caused by blood being forced to *regurgitate* through the narrow and stenosed valve *whilst the latter is being closed*, an act which results at a later period of ventricular systole than with a normal valve and *not at the very onset* of ventricular systole. The followers of Gairdner will see a confirmation of their views in the association of the very scanty musculature of the auricles in this case with the absence of a crescendo bruit, but Dr. Brockbank would be entitled to point out that in describing the auriculo-ventricular valves I had said, "the margins of the segments cannot be made to meet and there must, I

[2] Medical Chronicle, June, 1897, and November, 1901.

think, have been but little difference in the size of the aperture during the various phases of the cardiac cycle."

It will be remembered that there was a rumbling diastolic murmur at the apex which led to a diagnosis of mitral stenosis but that no such bruit was audible in the tricuspid area. Now the pressure of blood in the auricle during the passive period of its cycle—and this it is which immediately concerns us at present—will necessarily be higher in the left auricle, into which blood is forced through the lungs by the right ventricle, than in the right auricle which has no corresponding forcing pump at its service. This is true even of the healthy heart but in the case we are discussing the discrepancy would be more marked and might account for the presence of a diastolic bruit of mitral origin and the absence of a similar one of tricuspid origin.

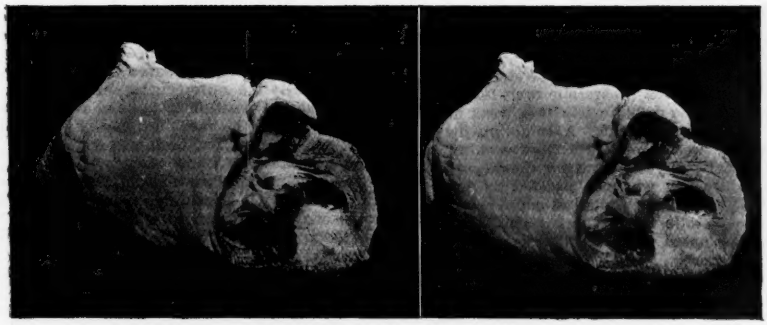
Tricuspid stenosis is, as you know, a rare affection. There are in all about 270 instances on record, and there are in our own museum no fewer than 23 examples. As an isolated affection it is the rarest of all valvular lesions. Some years ago I subjected[3] the records of all the reported cases to a careful sifting, with the result that I could accept to my own satisfaction only six cases in which there was not also stenosis of the mitral valve and only four in which all the other valves of the heart were free from disease. Since then Dr. Henry Barnes of Carlisle[4] has referred me to a case mentioned by him in an address delivered some 30 years ago in which there was stenosis of the tricuspid valve associated, it is true, with thickening of the mitral segments but in which the mitral orifice was widened, and Dr. J. Mackie Whyte of Dundee has kindly sent me notes of an unpublished case in which there was marked tricuspid narrowing and in which the mitral valve was normal in every respect.

I ought to mention that in my above noted sifting there were two cases quoted by Leudet[5] from Duroziez which I did not admit because there was no mention of the actual condition of the mitral valve in his abstract. Duroziez's original communication[6] was not before me at the time but I have recently obtained access to it and I find that while in one of the cases (No. 32 in Leudet's thesis) M. Foley "n'a trouvé q'une lésion de la tricuspide," it is expressly stated that in the other (No. 29) there was also mitral stenosis and aortic regurgitation. I also refused to admit cases in which the tricuspid orifice was obstructed by "tumours," probably the thrombi of endocarditis, and I have cut out as irrelevant those few instances where the stenotic lesion was associated with some congenital anomaly of the heart.

Peacock and Rosenstein regarded tricuspid stenosis as almost always of congenital origin and I gather from the reports of some recent cases that the writers of these have seen in the great smoothness of the funnel-like valve and the complete absence of vegetations in the specimens strong evidence that the condition was one of congenital and not of inflammatory origin. I cannot too strongly dissent from this view and I agree with Dr. Bedford Fenwick that tricuspid stenosis in any way resembling the specimen we are discussing is in almost every instance an acquired and not a congenital condition. The same is, I am confident, true of stenosis of the mitral valve, for if it were otherwise our post-mortem records dealing with infants would show many instances of the condition and I cannot call to mind, in an experience of some 20 years of personal work in the post-mortem room, any case of mitral stenosis presenting itself in a necropsy on an infant.

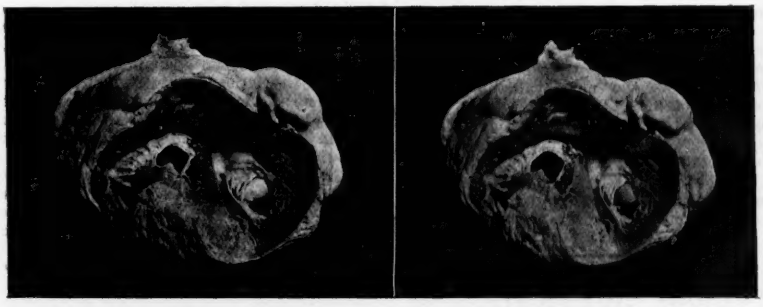
The diagnosis of tricuspid stenosis would be made much more frequently than it is if its possible occurrence in any

FIG. 1.



Stereoscopic view of the heart from the front and left showing the great enlargement of the right auricle.

FIG. 2.



Stereoscopic view of the heart showing the narrowed mitral and tricuspid apertures, a large portion of the interventricular septum having been removed.

[3] On Affections of the Tricuspid Valve of the Heart, Edinburgh Medical Journal, February, 1903, where other references will be found.

[4] Notes on Practical Medicine, Presidential Address Border Counties Branch of the British Medical Association, July, 1876.

[5] Essai sur le Rétrécissement Tricuspidien, Paris, 1888.

[6] Du Rétrécissement de la Tricuspide, Gazette des Hôpitaux 868 (not 1860, as quoted by Leudet), pp. 310 and 315.

long-standing case of mitral stenosis were borne in mind. Some years ago I ventured to write as follows[7]:—

> The observations on which a diagnosis of tricuspid stenosis may reasonably be based are, in my opinion, the following:—
> (*a*) The presence in a case of mitral stenosis of a presystolic bruit, audible not only at the apex but towards the lower part of the sternum, especially if, as Haldane has pointed out, there should be two points of maximum intensity, one at the apex and the other in the tricuspid area.
> (*b*) The development of such a bruit in a patient who hitherto has presented the ordinary bruit of mitral stenosis.
> (*c*) Marked extension of cardiac dulness to the right of the sternum, indicating right auricular enlargement without much epigastric pulsation or other signs of considerable right ventricular enlargement. This might especially be expected in instances of great tricuspid stenosis with little or no regurgitation, but the existence of great right ventricular enlargement must not be accepted as strong evidence against tricuspid narrowing.
> (*d*) Marked fulness of the veins of the neck *without much pulsation in them* will strengthen our suspicions; here, again, the less the pulsation is in such distended veins the narrower may we assume the tricuspid orifice to be, for the auricle will be less relieved by its contraction, and there will be less regurgitation during the succeeding ventricular systole.
> (*e*) The supervention of dropsy and albuminuria in a patient suffering from apparently simple mitral stenosis. This may arouse our suspicions, for these affections are not common unless there is considerable regurgitation associated with the stenosis, but it should not do more than this, for dropsy and albuminuria may result from right-sided failure in mitral narrowing without tricuspid stenosis.

In a small number only of all the cases of stenosis of the tricuspid valve on record was a presystolic bruit referable to that valve detected, but the right auricle is a weak member and this is not to be wondered at. A rumbling diastolic bruit in the tricuspid area would be almost as valuable as one of purely presystolic rhythm, but our diagnosis in the case I have put before you was not assisted by any such physical signs, for the only bruit which we could refer to the tricuspid valve was systolic in rhythm. This bruit was harsh and being associated with thrill was accepted as evidence of there being probably actual organic disease of the valve. Now the tendency of all long-standing disease of the tricuspid valve is, as we know it certainly is in the case of the mitral valve, towards stenosis, and our earlier suspicions were confirmed by the change in the character of the venous distension and pulsation, and by the right-sided distension of the heart being auricular in its ascendancy rather than ventricular.

We must not therefore consider it essential to a diagnosis of tricuspid stenosis that a direct bruit, diastolic or presystolic in rhythm, should be made out. If we do we shall overlook the lesion in many instances. Since my attention was directed to this question some years ago I have made the diagnosis on several occasions, and though I have heard both diastolic and presystolic bruits of tricuspid origin and regard them, of course, as the most valuable positive evidence that can be obtained, I have learned to regard them as not being essential and feel that the diagnosis may safely be made on some powerful combination of several of the signs I have enumerated above.

In conclusion, I ought to say that it is a matter of regret to me that I was unable to make an investigation of the venous pulse by the aid of Dr. James Mackenzie's polygraph.

Leeds.

THE COMPULSORY NOTIFICATION OF TUBERCULOSIS.[1]

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I CONSIDER it a very high honour to have been asked to make a report to this important Tuberculosis Congress on such a comprehensive and vitally important question as the compulsory notification of tuberculosis to the health authorities.

At the last meeting of the Congress held at the Hague in 1906 a commission was appointed representative of all countries in Europe to consider and to report on this question. I had the honour of being a member of that commission as representing England, and although we held several meetings we were not able to arrive at a unanimous conclusion either in favour of or against compulsory notification. I will not attempt to weary you with all the arguments which have been so ably expounded by eminent authorities throughout the whole of the civilised world in favour of and opposed to the inclusion of tuberculosis amongst the diseases which are to be notified by law to the health authorities. I would rather, if I may, confine myself to my own experience in a large city amongst the poorer classes of the community and at the same time give to you my own personal impressions on the whole subject.

The very existence of this Congress is testimony to the fact that our one and only object is the prevention and treatment of tuberculosis and our greatest efforts must be directed towards prevention. Our duty is, in a great measure, due to the public who are so far not attacked by the disease; in other words, we must protect the healthy members of the community from infection. Our second and, if I might add, less important duty is the treatment of the individual who is unfortunately attacked by tuberculosis. First of all to place him in a position by which he may regain his health if possible and, secondly, to prevent him from being a dangerous focus from which others may be attacked. In carrying out those measures which are directed by the latest advances in medical science and our knowledge of the disease we must at the same time be careful not to injure unnecessarily the unfortunate sufferer or in any way place him in such a position as to be unable to earn his livelihood and compete in the race of life. The tuberculous individual must not be ostracised or in any way labelled as a dangerous person because we know that in a large majority of cases, with ordinary care, the consumptive is not a danger to those around him. On the other hand, there are a large number of cases of what are called "open tuberculosis"—that is, those which are discharging tubercle bacilli, either in the expectoration or through wounds—who are a very serious danger to the community and who in the interests of others must be controlled.

Tuberculosis being, unfortunately in the majority of instances, a slow and chronic disease cannot be classed in the same category as the acute specific infectious diseases, such as small-pox, scarlet fever, diphtheria, &c. In treating these diseases it is absolutely necessary that they should be immediately notified to the health authorities, so that proper isolation and disinfection can be carried out and the ravages of the epidemic checked. The public, recognising the immediate danger of contact with these cases, naturally keep as far away from them as possible, and both the sufferer and his friends are contented for him to be treated for the time as dangerous to the community. But the disease is soon over and the patient is returned to his family and his occupation none the worse for his enforced isolation. The same cannot be said of tuberculosis. Not only does the disease vary in its intensity and progress, but it is liable to all sorts of variations and vagaries in its symptoms. It may continue for 20 years, or it may kill the patient in 20 days, or even less. Now the advocates of compulsory notification of all forms of tuberculosis assert that before adequate steps can be taken to eradicate the disease the health authority must be informed of its existence. They must be informed of every individual within their jurisdiction who is suffering from tuberculosis in any shape or form, and if I could be convinced that were such a law enforced this happy ideal state of affairs could be accomplished, I would without any hesitation strongly recommend compulsory notification. In practice we know it to be impossible. In the first place, the medical men in private practice in England are strongly opposed to notifying their tuberculous patients to the health authority as suffering from a dangerous infectious disease, and the feeling has been strongly expressed in France by the medical profession that the confidential relations between medical man and patient would be severely strained. In England during the last few years a very large number of the great towns have adopted the system of voluntary notification of consumption and other forms of tuberculosis, and it must be admitted that the results of a fair trial of this method of treatment have been, on the whole, favourable, although not so favourable as its advocates would wish. The great majority of the notifications have been made from public institutions by public officials and only a very small number of notifications have been made by the medical man in private practice.

I am afraid that the adoption of compulsory notification with the enforcement of penalties would not only be most unpopular but would lead in many instances to considerable

[7] Article on Diseases of Circulatory System, Bain's Textbook of Medical Practice, 1904, p. 219.

[1] A report made to the International Congress on Tuberculosis at Vienna.

hardship. There can be no doubt that a large number of sufferers would decline to consult medical men for fear of being notified, and they would pass into the hands of the quack and the charlatan and the very aims of our work would be frustrated. Then, again, in doubtful cases of tuberculosis where tubercle bacilli could not be demonstrated in the sputum such cases would not be notified and the result would be that in all cases probably only those persons who were approaching death would be notified to the health authorities. Even this would be of great advantage in the prevention of the spread of the disease to healthy members of the family, but in my opinion it would not justify the general compulsion of all forms of tubercle being notified.

The International Association last year issued an inquiry from physicians all over the world as to their opinions on this question. It was called an "International Inquiry on Compulsory Notification of Tuberculosis," and the questions which were asked were as follows:—1. Whose duty is it to furnish the notification? Is it the duty of the head of the family or of the physician? 2. At what stage of development must tuberculosis be notified? 3. What measures are taken by the municipal and other authorities following upon notification? (Disinfection? How often, and at what intervals? Are other steps taken?) 4. What is the penalty enforced for neglect of notification or for neglect of the prescribed subsequent measures? 5. What is done with those persons who are removed from a given community? 6. Communications of remarkable experiences with compulsory notification? The replies which have been kindly furnished to me by our worthy secretary are generally in favour of compulsory notification, although in many cases modification is desired according to the habits and customs of the particular country from which they are made.

In England at the present time compulsory notification has been sanctioned by the Local Government Board in one town only—namely, Sheffield—and that for a short term of years purely as an experiment. I have very carefully examined and studied the reports of that town, both before and since the establishment of compulsory notification, and I cannot see that one can point to any special benefit which has resulted from it and I cannot help thinking that the reduction in the number of cases in the city and also the number of deaths which have been certified from tuberculosis may not be a correct one.

The reports just issued by Dr. J. F. W. Tatham on the vital statistics of England and Wales in respect to tuberculosis are of great interest in Great Britain. The first change is that the mortality from tuberculosis in all its forms has decreased to a very large extent, at all ages and in both sexes; in fact, the reduction has been 50 per cent. in the last 50 years. This decline in the rate of mortality from pulmonary tuberculosis has affected both sexes, but has been more marked among females than among males, and the steadiness of the decline suggests that it is due in a great measure to the general sanitary improvement of the whole country. In America, thanks to the energy and initiative of the able health administrator of New York city, compulsory notification has been established in 53 cities out of 86 in the United States, with, according to the reports at my disposal, encouraging results.

A most remarkable circular on the administrative control of pulmonary tuberculosis was issued in March this year by the Local Government Board for Scotland. It points out that pulmonary tuberculosis is an infectious disease within the meaning of the Public Health (Scotland) Act of 1897, and the Board's view is that the infectious nature of pulmonary tuberculosis and its passage from person to person directly or indirectly compel administrative measures for its prevention. Permission is given by the circular for any health authority of Scotland to adopt compulsory measures with regard to pulmonary phthisis, and it will be interesting to watch the developments of the future. Local authorities are assured that they have power to prevent infected persons from exposing themselves in streets or public places without proper precautions against spreading the disease, nor should any person suffering from consumption or living with a consumptive engage in any occupation connected with food or in any trade or business in such a manner as to be likely to spread the disease. I confess that these restrictions, although perfectly logical and from a medical point of view desirable, could not be carried out in practice without considerable hardship to the sufferers, and I would rather be in favour of adopting modified regulations regarding tuberculosis than to include it simply as an acute infectious disorder.

Although I am not convinced that compulsory notification would be followed by any advantages over our present method of attack, yet one ought to be prepared to mention an alternative plan of campaign which would be based on sound experience of a purely voluntary and coöperative character as opposed to any measures of compulsion. In all matters affecting the public health we have learnt by experience in England that we must not go in advance of educated public opinion and we must, first of all, convince the intelligent public of the necessity of our measures before we can be in a position to enforce them.

Tuberculosis must be considered in a class by itself and any regulations which are applicable to other infectious diseases cannot be applied in the prevention and treatment of consumption. The disease must be attacked by totally different methods involving not only the highly trained and scientific medical men but also the coöperation of all those interested in sanitary administration and in addition the public and especially those suffering from the disease themselves. Suitable means of attack having been devised it remains for the central Government to put these into operation by sound and careful legislation but which must not on any account savour of hardship or personal suffering.

The measures which I would recommend are as follows: 1. Municipal dispensaries; notification of all "open" cases. 2. Health visitors. 3. Regulations against tuberculous persons handling food. 4. Inspection of milk and meat. 5. Improved dwellings; ventilation; air space. 6. Destruction of expectoration. 7. General sanitary measures. 8. Disinfection of houses after death. 9. Inspection of hotels and boarding houses. 10. Separation of children from consumptives with, if necessary, compulsory notification. 11. Isolation of advanced cases. 12. Hospitals for treatment. 13. Voluntary notification.

1. *Municipal dispensaries.*—It would be highly desirable to establish in every populous centre by the health authority a dispensary where the poor suffering from consumption could apply for information regarding the disease and its treatment. This would be the basis of a bureau for information to the authorities and would serve as an institution of a highly educational character regarding the causes, symptoms, and methods to be adopted in the prevention of the disease. All cases attending the dispensary would, of course, be notified by the officials, and in that way a large number of advanced cases would be discovered.

2. *Health visitors.*—The appointment of a number of health visitors in every district would be of immense value. By a careful inspection of dwelling houses cases of tuberculosis would very soon be discovered and advice tendered with regard to methods of treatment. Advanced cases living in the family would have to be either provided with proper isolation at home or measures would be necessary for compulsory removal to some institution so that healthy members of the family might not run the risk of infection. The health visitors would, of course, work under the direction of the medical officer of health.

3. *Regulations against tuberculous persons handling food.*—It is absolutely necessary that strict regulations should be drafted and enforced whereby it would not be possible for consumptive persons to keep a dairy farm, to attend to dairy cattle, or have anything whatever to do with the handling of milk, meat, or any other article of food, and more especially in persons who suffered from "open" tuberculosis of the hands or face.

4. *Inspection of milk and meat.*—In my judgment this is one of the most important points from which to attack the tuberculosis problem. The prevalence of tuberculosis amongst cattle, pigs, and fowls in this country is alarming and when we consider that from 25 to 30 per cent. of all dairy cattle in the British Isles are suffering from tuberculosis one cannot be surprised at the prevalence of the disease, more especially amongst children. I consider that an enormous amount of tuberculosis is due to the feeding of children with uncooked tuberculous milk and until a thorough and organised attack is made on tuberculous cattle we cannot hope for much improvement. The widest powers ought to be given to every health authority enabling it to exclude all tuberculous milk from the area of distribution and also enforcing the strictest penalties on those who supply infected milk.

5. *Improved dwellings, ventilation, air space.*—One of the greatest factors in the spread of consumption is the crowded, insanitary, and badly ventilated dwelling houses of the working classes. If, unfortunately, a consumptive member of a family, with expectoration, lives in one of these dwellings,

he may spread the disease by his carelessness to several healthy members of the family. The dwellings must be improved, the ventilation and air space increased, and overcrowding must be prohibited. No city in the world has done more in this direction than Liverpool, and, although it is a costly process, it is well worth the expenditure.

6. *Destruction of expectoration.*—Regulations against spitting in covered places should be strictly enforced and the people must be educated to the fact that careless expectoration is the commonest way by which the disease is distributed. Spittoons might be provided by the health authority to those unable to purchase them, and also some disinfectant might be provided free of charge.

7. *General sanitary measures.*—It is by these means that tuberculosis will ultimately be overcome. They include all the measures necessary for the stamping-out of this scourge and the enormous decrease in our death-rate during the last 50 years is strong testimony to their value.

8. *Disinfection of houses.*—In all cases where a death has occurred in a house or where a consumptive with expectoration has lived, thorough disinfection ought to be provided by the health authority. This is absolutely necessary, not only for the purpose of destroying the germs of the disease which lurk in the room, but also for purposes of education to those concerned.

9. *Inspection of hotels and boarding-houses.*—The health authority ought to have powers of inspection not only of hotels but of all houses where consumptive patients are received and no room which has been used by a consumptive should be again occupied until thorough disinfection has taken place.

10. *Separation of children from consumptives.*—This is a matter of the highest importance and would form one of the most important parts of the work of the health authorities. Children being most susceptible to all forms of tuberculosis ought never to be permitted to have close association with consumptives. Separate rooms ought to be provided for the healthy children and as far as possible they should be separated absolutely. I have seen many instances where a consumptive mother or father has infected three or four members of the family in the space of a few months. Those children attacked in the early stages should if possible be removed to seaside or country sanatoriums, as they are easily cured and respond very quickly to treatment. These institutions for children ought to be provided by the health authorities.

11. *Isolation of advanced cases.*—Experience teaches us that the most dangerous person in the propagation of tuberculosis is the advanced consumptive with copious expectoration. He is a positive danger to the community and ought to be strictly isolated. The best place for him is away from his home and quite apart from the healthy members of his family. Institutions ought to be provided by all health authorities for the isolation of all those advanced cases who are not able to provide it for themselves. The health authority should have compulsory power of removal of any advanced case who, in the opinion of the medical officer of health, was not properly isolated and treated at home.

12. *Hospitals for treatment.*—These are of the greatest necessity. Every town should have a sanatorium for the treatment of those persons in the early stages of the disease. It would serve not only as a valuable means of treatment but would also be an important educational adjunct in the crusade against tuberculosis.

13. *Voluntary notification.*—This method of notification ought to be universal but I think it ought to be made compulsory in cases of public institutions where patients suffering from the disease come under the notice of the officials. In other respects the notification by the medical men should, for the time at least, remain nominally voluntary, but with suggestions to medical men to notify any case occurring in their practice which in their judgment is dangerous to the community and ought to be isolated. I am quite certain that medical men throughout the country would willingly coöperate with the health authorities not only by notifying any dangerous case with expectoration requiring isolation but by carrying out any other measures which would assist in the prevention of the disease. I am, however, opposed to any measures which would compel medical men under force of penalties to carry out regulations involving delicate relations between medical man and patient against their will, believing as I do that the final victory over tuberculosis will not be gained by compulsion but by the earnest and steady coöperation of science and perseverance.

[After a long and vigorous discussion the following resolution was unanimously agreed to:—

That in all cases of death from pulmonary or laryngeal tuberculosis notification must be made to the health authorities so that proper disinfection of the house may be made, and that in case of change of residence of any person suffering from pulmonary or laryngeal tuberculosis notification to the health authority must be made, so that adequate measures may be adopted to protect the healthy members of the community.

Compulsory notification was strongly advocated by the German, Austrian, and Norwegian delegates, but France and England were opposed to such extreme measures.—N. R.]

Liverpool.

THE TREATMENT BEFORE AND AFTER OPERATION OF 38 CONSECUTIVE SUCCESSFUL PROSTATECTOMIES BY FREYER'S METHOD.

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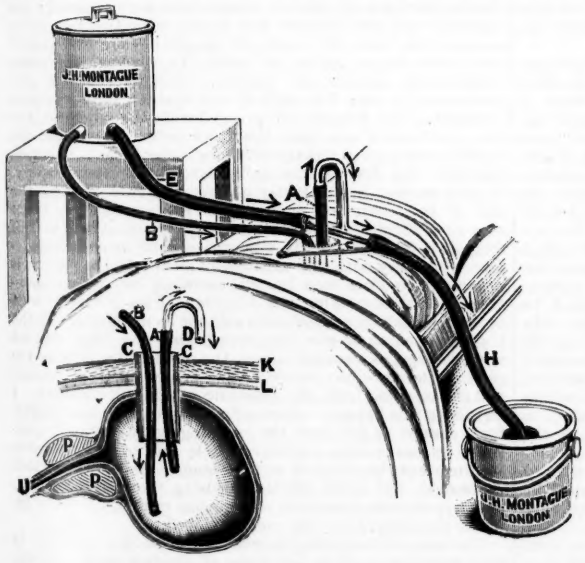
THE preliminary and post-operative treatment of suprapubic prostatectomy being of the utmost importance, a description of the methods employed in 38 consecutive successful cases during my period of office at St. Peter's Hospital may be of general interest. Indeed, it is not too much to say that the greatest success cannot be obtained without strict attention to what may appear minor details.

When the patients were strong healthy men and the residual urine did not exceed 5 ounces the only treatment adopted before operation was a course of 10 grains of urotropine + 30 grains of acid phosphate of sodium thrice daily for a few days. Contrexéville water and barley water were also given as a routine before and after operation. It is uncommon for a hospital patient with prostatic enlargement to seek advice until the symptoms are very pronounced. That they "make so much water" is looked upon as due to advancing years and quite as it should be. In the absence of pain it is not infrequent for patients to delay consulting a medical man until the bladder is chronically distended with a greater or less amount of residual urine. If the patient has more than 5 ounces and less than 15 ounces of residual urine I think it is safer for him to be catheterised twice daily for a week or two before operation. This was not rigidly adhered to in this series of cases, but if the residual exceeded 15 ounces not more than this amount was removed at one time, otherwise there would have been the great danger of suppression of urine; the patient was put to bed and the bladder was then emptied slowly by tying in a small catheter of size from 2 to 6 (French gauge). The catheter should be of such a size as to withdraw just a little more than is being secreted; by this method of continual drainage the bladder was safely emptied by the end of a few days. When the bladder was quite emptied the catheter was passed twice daily in order to prevent chronic distension occurring again. The patient was taught to catheterise himself aseptically and he was sent home. A soft rubber catheter is best for this, for it can be boiled before and after use. It depended upon the condition of the kidneys as to when the operation was performed. If there was failing renal function as evidenced by thirst, morning headache, emaciation, bilateral lumbar pain and tenderness (often referred to as "lumbago" by the patient), dry skin, dry glazed tongue, or polyuria with diminished excretion of urea, &c., the patient was not operated upon for from four to eight weeks. Regular catheterisation rests the kidneys and with the relief from the back pressure their failing function was as a rule soon restored. It is extraordinary how soon the general health of the patient improves, for not only do the kidneys regain their function but the regular catheterisation enables the patient to obtain undisturbed rest at nights. Patients were also given a mixture containing digitalin, a diuretic, a diaphoretic, and a laxative. A large proportion of the cases suffered from heart or chest lesions, or a combination. Those who had chest trouble were well saturated with ammonium carbonate before operation in order that, if necessary, expectoration was encouraged just after recovery from anæsthesia when the administration of medicine was not admissible owing to

nausea. The majority of the cases were given calcium chloride, 20 grains every four hours, for a full day prior to operation. In each case the urine was carefully collected for 24 hours and a full examination was made. If there was a large amount of residual urine the collection of this 24 hours' specimen was not started until the bladder had been emptied.

In about five cases there was very well-marked bilateral leg œdema which no amount of medicine and rest in bed, &c., would improve before operation. Without exception this entirely disappeared within 24 hours after prostatectomy. I can offer no explanation for this remarkable fact. The majority of the cases were brought into hospital 48 hours before they were operated upon; my experience was that the less time they were in hospital prior to operation the better they did. In two cases where there was a chronically distended bladder and where no catheter could be introduced a suprapubic cystotomy was performed as a preliminary to prostatectomy and both these cases did exceptionally well. The disadvantages of a preliminary cystotomy are that it makes two operations for the patient and that the actual prostatectomy is rendered less easy on account of the infiltration of the tissues due to the first operation, and this makes the gland much more difficult to reach and thus enucleate.

The quickest way to cure a very septic bladder is to combine a preliminary suprapubic cystotomy with a continuous irrigation. For the latter purpose I had a large can made holding 2 gallons with 2 metal outlets of ¼-inch bore both on the same level near the bottom of the can. On each of these was fitted a piece of stout rubber tubing with a stopcock on the end and to the latter was fitted rubber tubing of $\frac{5}{16}$ inch and $\frac{1}{16}$ inch. The larger one leads to Mr. W. G. Richardson's ingenious modification of the Cathcart pump; the smaller is introduced directly into the suprapubic tube draining the bladder. For convenience the feed-tubes are kept in apposition by means of clips; these, however, are not shown in the diagram. The can must be on a table by the bedside about 3 inches above the level of the patient. At the operation the opening in the bladder is accurately occupied by a drainage-tube C. The fluid from the can is introduced into the bladder by means of the smaller tube B. To the turned-over free end of the vertical portion of a glass inverted T-piece, D, is fixed a piece of rubber tubing, A, which accompanies the



smaller tube through the drainage-tubing into the bladder. To empty the viscus of the fluid thus introduced the water is constantly running from the can through the larger feed-tube E, along the horizontal portion of the glass T-piece and through more rubber tubing H into a pail on the other side of the bed; during its journey past the lower end of the vertical portion of the T-piece it exerts a vacuum and the bladder washings are sucked out. This glass T-piece is fixed to a triangle made of wire and anchored to the bandages by means of three pins. It is a good plan to reduce the lumen of the drainage-tube at its outlet by means of a pair of Spencer-Wells clips. Great care must be taken not to introduce lotion into the bladder until the "exhaust" is properly working, otherwise there will be an overflow into the bed. To avoid the possibility of such an accident it is always a good rule to turn off both taps before interfering with any portion of the tubing. By this method of continuous irrigation the bladder was rendered aseptic in the course of 48 hours or so. The lotion used was bicyanide of mercury 1 in 5000 or perchloride of mercury 1 in 10,000 or boric acid. The letter K represents the dressing on the abdominal wall, P the prostate, and U the urethra. The illustration gives a general view of the apparatus fixed for use, also an "inset" of a sagittal section of the bladder.

At the operation for enucleation of the gland the wide bored drainage-tube should be long enough to project 1¼ inches beyond the level of the skin—i.e., to the level of dressing K after the bandage has been secured. Over the end of this is fixed a piece of ordinary collapsible colotomy tubing of 1 inch diameter and from 6 to 8 inches long; there will be no need for a ligature, for being slightly smaller than the bladder drainage-tube it fits tightly. Since my introduction of this method the bill for dressings at St. Peter's Hospital has been considerably reduced. Prior to its adoption each case had to have the dressing changed every four hours, or sometimes even oftener than this when there was profuse drainage. *Now* the dressing is perfectly dry for at any rate three or four days and only requires changing when the bladder is irrigated. It is absolutely essential that the drainage-tube should be large enough to occupy the cystotomy opening at the time of operation, otherwise there will be leakage alongside the tube. The patient may lie in any position he chooses; all that is necessary is to change the position of the urine bottle, into which the colotomy tubing leads the urine, each time he moves. His urine can be carefully collected and the total daily excretion of urea estimated, which is a great boon in the early days after operation when there is sometimes polyuria but with urea-less urine. He is quite dry, back and front, which considerably adds to his comfort; is easier to nurse, there being less likelihood of bed-sores; and makes better progress, as he is not so frequently disturbed. Changing the dressing frequently means exposure of the patient each time and therefore danger of a chill especially in winter. The danger of the urine stagnating in the prevesical space, &c., is practically *nil*, for the extravesical areas are before the fourth day completely shut off from the sinus occupied by the drainage-tube.

Immediately the operation was over, and before removal from the theatre, the patient was given hypodermically $\frac{1}{30}$th grain of ergotin citrate with $\frac{1}{6}$th grain of morphine. At intervals of two hours three further separate hundredths of the ergotin were given. For shock ergotin citrate is excellent, and as a stimulant it can be given safely where strychnine is not admissible on account of possible hæmorrhage.

The patients were always placed on one or other side when put to bed, the end of which was elevated, and they were kept absolutely quiet until the next morning when the bed was lowered, the dressing was changed, and irrigation was employed for the first time. At this first dressing the iodoform packing was removed from the prevesical space, the colotomy tubing taken off, and the bladder thoroughly irrigated, but great care was taken not to distend the bladder and prostatic cavity for fear of causing hæmorrhage. All loose clots were removed by sinus forceps. The colotomy tubing and dressing were reapplied. After the second day the bladder was irrigated by means of a soft indiarubber catheter which was passed down the drainage-tube. From the sixth to eighth day onwards Janet's method of irrigation was employed. This is probably the best way of thoroughly washing clean the prostatic cavity. Janet's method should not be used prior to this, for if the prostatic cavity is dilated it might cause hæmorrhage. The irrigating can should not be more than 6 feet from the ground to avoid undue distension of the prostatic cavity and, moreover, sepsis may be forced into the ejaculatory ducts and thus perhaps cause an

epididymitis. If it be necessary to have a big "head" of water to start the irrigation the can must be lowered immediately the compressor urethræ is overcome, as evidenced by the appearance of bladder washings suprapubically. Whichever method of irrigation is used the keynote is thoroughness. If the compressor is too powerful, pass a catheter (soft indiarubber is best) just far enough so that the prostatic cavity is well washed. Often about the twelfth day if the nozzle of the irrigator was made to plug up the sinus and the bladder was thus distended the patient would micturate freely, thereby removing any pus or débris which had gravitated to the bladder base. Irrigation was performed by means of a douche-can situated on top of a sliding rod on a portable stand. Rubber tubing with a detachable glass nozzle conveyed the lotion to the bladder. The amount used each time was at least two pints. A solution of bicyanide of mercury 1 in 5000 was almost invariably used for irrigation purposes; occasionally potassium permanganate 1 in 5000, but if the urine was very phosphatic, causing deposits of the same in and around the wound, a saturated solution of freshly prepared boric acid was employed. If there was any prevesical sepsis mercury perchloride 1 in 1000 was utilised.

For the first ten days the bladder was irrigated twice daily, after this once daily until the patient passed urine freely, when irrigation was dispensed with entirely. Urine usually leaked past the drainage-tube on the third or fourth day and this was then either removed altogether or a tube of smaller bore was substituted for a further 24 hours. The separation of the recti muscles for this period insures a firm-walled sinus and does away with "trackings" of urine into the tissues surrounding the bladder and behind the above muscles. After removal of the tube the dressing was changed every four hours and the walls of the sinus "gardened" daily to remove any small adherent slough. A Colt's dressing may be applied; I cannot speak from experience but this ingenious apparatus seems excellent. Unfortunately, I only became aware of its existence just prior to giving up my appointment at St. Peter's Hospital. Preceded by the use of the colotomy tubing for three days it should give admirable results.

Mr. Freyer likes an elastic coudé catheter passed about the tenth day as a routine in order to rupture any possible bands traversing the prostatic cavity. This was not employed in all the series. Indeed, in one case no catheter whatever was passed until the patient left hospital, when the absence of residual urine was proved. He was perfectly dry by the fourteenth day and remained so until his discharge four days later. He was under the care of Mr. John G. Pardoe.

The patient will pass urine any time from the second day onwards. Several ounces were collected from one patient on the second day. As Mr. Freyer mentions in his book, I found that the earlier a patient passes urine the longer the suprapubic sinus persists. Usually urine was passed from the tenth to the fourteenth day; complete healing of the wound was always preceded by the dressing being alternately damp and dry for the succeeding few days. When the patient was micturating freely all irrigation was dispensed with, for not only is there no further indication for this but it retards the closure of the sinus. It was not infrequent for the patient to have a rigor with rise of temperature the first time urine was passed and this was sometimes accompanied by an epididymitis. Can closure of the wound be hastened by tying in a catheter through the penis? My experience is that it cannot. Moreover, if it is left in for more than a few days there is a tendency to a temporary incontinence of urine due to the resulting patent condition of the compressor urethræ. I think that matters might possibly be hastened if a catheter was tied in on the seventh day for 24 hours only, just to show the urine which is the correct route.

The dressing used was a single layer of wide-meshed gauze covered by layers of cellulose. The gauze must be wide-meshed otherwise it is liable to get blocked up with mucus or débris, and the urine fails to get away. The cellulose is a splendid dressing: it attracts the urine, thus preventing any stagnation; it absorbs much more readily than cotton or wood wool, and it is much more comfortable for the patient. It, however, has a tendency to crumble up and form little pellets which must not be allowed to fall into the sinus, for they are said to be a cause of vesical calculus.

Baths on or about the fourteenth day were tried in a few cases, but they had such an exhausting effect, and moreover the danger of chill was so great, that I thought the good done locally did not balance the harm to the general condition.

Being a great believer in the efficacy of stimulants after any operation on old people which confines them to bed the majority of the cases were given brandy (from 3 to 6 ounces per diem) *after* the first 24 hours. They were not given this before so as not to raise unduly the blood pressure and thus perhaps cause hæmorrhage. The greater proportion of the patients are used to stimulants as part of their life, and I therefore think it a mistake to deprive them of it suddenly. The bowels must be kept thoroughly open. One ounce of oleum ricini was given on the second night after operation, and if the bowels were not moved by the next morning a simple enema was given followed by an oil and turpentine enema if necessary. For flatulent distension the latter was invariably efficacious. During convalescence the bowels were regulated by pills of colocynth and hyoscyamus.

The suprapubic sinus is occasionally very slow in healing but I did not see a case which refused to respond to treatment. From about the eighth day onwards the sinus was scrubbed with a strand of gauze to encourage granulations. If this did not produce closure the sinus walls were stimulated with silver stick or by scraping with a small sharp spoon. This treatment, together with perhaps the tying in of a catheter, never once failed. A soft indiarubber catheter, No. 20 (French gauge), was usually employed, an extra eye being cut in the end, and care taken that the instrument did not project too far into the bladder, otherwise its presence would have been useless. It was fixed to the penis by two pieces of strapping.

If after operation a piece of blood-clot sticks in the torn urethra very great discomfort is caused, the spasms sometimes making the patient shriek out. If present it usually lasts for two or three days, the spasms gradually getting less severe. Nothing but opium seemed to relieve the condition.

Hæmorrhage was seen in two cases. As the treatment also applies to other cases of vesical post-operation hæmorrhage the method employed will be detailed. If there was slight hæmorrhage only with a steady slow pulse as much morphine as was safe was given. If, however, I was satisfied that hæmorrhage was severe and the pulse-rate was rising the condition was treated actively at once. The bladder was irrigated with solution of silver nitrate (grains 30 to 40 to the pint), this being as hot as the patient could bear it—that was, from 110° to 118° F. If this did not stop the hæmorrhage all stitches and the tube were removed; the opening into the bladder was found with the left index finger; one blade of a pair of sponge-holders was guided along the finger, getting it inside the bladder, the other blade being outside the bladder. The forceps was now closed and a very firm grip of the bladder wall was thus obtained. The forceps was grasped with the left hand, the clot was turned out with the right index finger, and the bladder was packed tightly with long strips of gauze knotted together, the first portion going into the prostatic cavity. It was packed in as tightly as ever it would go and the end of the gauze was brought out suprapubically. There was no difficulty about removing the gauze at the end of from 20 to 24 hours, for it was soaked with urine and therefore came away with the greatest of ease. If the patient is a healthy vigorous man he will certainly require an anæsthetic for thus packing the bladder; if he is feeble or is suffering much from shock this will not be necessary. If the bladder opening is not determined and one edge secured with forceps, as detailed above, the probability is that the cave of Retzius—i.e., *outside* the bladder—will be packed and the bleeding from the prostatic cavity will continue. I have seen this happen. Adrenalin chloride is useless locally, for it cannot be got near the bleeding point, as the hæmorrhage washes it away; moreover, it is said to be responsible for the great sloughing at a later stage. Shock was treated by warmth, hot rectal nutrients, raising the end of the bed, and hypodermic injections of ergotin citrate. Neither infusion nor transfusion was ever employed.

The most difficult thing to treat, however, was uræmia. It may manifest itself in all kinds of obscure ways. If the ante-operation examination of the 24 hours' specimen of urine showed a specific gravity of lower than 1010, or if the daily excretion of urea was less than 320 grains, nothing was left to chance and poulticing of the loins was started directly the patient got back to the ward. Night rounds on operation days were always anxious times, for it had to be decided whether the bladder was draining sufficiently or not.

If not, was it due to total or partial suppression of the renal function or was the small amount secreted due to great shock? Among other ways (singly or several of them combined) I saw uræmia declare itself by drowsiness, hiccough, vomiting, rigor, renal pain, unhealthy condition of the wound, urine which was practically urea-less, restlessness, thirst, frontal headache, dry tongue, dry skin, muscular twitchings, small pupils, wasting, jaundice, incontinence of fæces, or rashes especially on the back. Therefore I was always on the look-out for any indication, however obscure. If there was any doubt the patient was treated actively for uræmia. As this most often appears during the first few days after operation, it is invaluable to be able to collect all the urine by the method mentioned above in order to estimate the total quantity of urea being excreted. I always started treatment by infusing saline solution (20 ounces) with brandy (one ounce) into each breast, for this is an excellent diuretic, and linseed poultices were applied to the loins, on one hour and off from three to four hours. I do not think it safe to do anything further than this until 24 hours after operation on account of danger of hæmorrhage. At the end of this 24 hours I gave pulv. jalapæ co., grains 80; brandy per mouth or per rectum; a mixture containing digitalin, a diuretic, and a diaphoretic; and strychnine (grain $\frac{1}{30}$) every four hours hypodermically. If the patient did not improve special nurses were obtained and continual rectal irrigation was employed. A long rectal tube of large bore was introduced as far as possible, sometimes reaching the splenic flexure of the colon, and saline solution at the rate of two pints per hour and at a temperature of from 102° to 110° F. was employed. My reason for doing this was that I remembered as a student seeing a case under the care of Mr. J. Rutherford Morison where a fatal latent uræmia occurred due to the removal of a tuberculous kidney and where the other kidney, notwithstanding it felt normal when palpated during operation, was functionless, the condition being accompanied by excretion from the bowel of what was taken to be crystals of urea. I cannot say whether the hot saline solution stimulates the bowel and mucous membrane to excrete urea, or if the heat transmitted to the underlying kidneys persuades these organs to resume work—at any rate, the results justified the treatment. It is, however, disagreeable for both nurse and patient. This was employed every hour for two days and at longer intervals afterwards, depending on the condition of the patient. If there was no improvement on the day following the onset the lungs were carefully examined and in the absence of moist sounds a further pint of saline solution was infused into each breast; more than this was not injected on account of the danger of œdema of the lung. Vomiting is very difficult to treat; if copious draughts of 1 drachm of sodium bicarbonate to 1 pint of water or an emplastrum lyttæ applied to the epigastrium failed, the stomach was washed out. For hiccoughing little can be done; if it is bad nothing can stop it. Cocaine, $\frac{1}{8}$th grain in a pill, or atropine, or morphine was tried. Champagne makes an excellent stimulant in uræmia.

If following operation any lung trouble supervened the patient was propped up in bed after the first 12 hours. If it was necessary for him to cough and he could not be induced to do so for the suprapubic pain caused thereby, the drainage-tube was removed at the end of 24 hours. To remove the tube so early entails great risk of the urine tracking laterally and into the pelvis; there were at least four cases like this. Should there be tracking, a catheter was tied in through the penis as soon as safe (about the fifth day) in order to drain as much urine by this route as possible, and the wound was irrigated every six hours with perchloride of mercury 1 in 1000, or if the urine was very phosphatic a freshly prepared saturated solution of boric acid was used. Postural treatment is important; if the patient can be persuaded to lie in the prone position (even for 24 hours) great improvement will ensue. I did not see any case bad enough to lead to abscess formation. All cases did well. In every case, for a few days after removal of the tube, the sinus was always exp'ored digitally each day to make certain that there was no tracking.

Sepsis in the prevesical space was not common. When present I believe it is usually due to the bacillus coli communis. It can be quickly cured by irrigation every eight hours and by getting the patient to assume the prone position, thus insuring good drainage of the cavity. Sepsis in the prostatic cavity is rare; it must be treated by frequent irrigation. It is a cause of persistent suprapubic sinus. It is usually due to a prostatectomy being done when there is a bad cystitis; a preliminary cystotomy with continuous irrigation for a day or two will obviate this.

The average stay in hospital was one month.

The number of patients admitted with enlarged prostate during my period as house surgeon was 60. Of these, 38 had suprapubic prostatectomy performed; in six cases this was preceded by a preliminary cystotomy. Two cases died in hospital before they could be operated upon. Of the remaining 20 sent out without any operation, three at least died shortly afterwards; five had inoperable carcinoma; the remainder were either put on catheter life for chronic bladder distension and were, or would be, readmitted for operation, or the cardiac condition would not admit of operation at the time of discharge. This series of consecutive successful cases was in great part due to the all-round excellency of the nursing staff and to the great interest shown by them in their work. I thoroughly appreciate their devotion to these old men who for the most part were unable to do a thing for themselves.

My thanks are due to the honorary staff at St. Peter's Hospital for their courtesy in allowing me to refer to cases.

The irrigator mentioned was made for me by Mr. J. H. Montague, 69, New Bond-street, London, W.

Newcastle-upon-Tyne.

TWO CASES OF ACUTE SPREADING GANGRENE,

WITH A NOTE ON THEIR BACTERIOLOGY.

BY R. R. JAMES, F.R.C.S. ENG.,

LATE HOUSE SURGEON AT ST. GEORGE'S HOSPITAL.

(From the Clinical Laboratory, St. George's Hospital.)

A MAN, aged 30 years, was run over by a motor omnibus on Feb. 13th of this year and was admitted into St. George's Hospital under the care of Mr. Francis Jaffrey. The patient was much collapsed and there was a compound fracture of both bones of the left leg in their upper third; posteriorly there was a long gaping wound, exposing the bellies of the gastrocnemius, one of which was partially ruptured. The wound was very dirty and as no pulsation could be detected in the vessels below the seat of fracture it was thought that amputation would have to be performed. When the man reached the theatre, however, pulsation was definitely present in both tibial vessels at the ankle, so the wound was cleaned as well as possible with the usual lotions, a nail-brush, and irrigation with saline solution. Lacerated pieces of muscle and contused bits of skin were cut away and the bones having been brought into apposition the wound was sewn up and the limb placed on a back and pair of side splints after a tube had been placed in the lowermost angle of the wound. On the next morning the wound presented no abnormal appearances and the man's condition was pretty good. 26 hours after the accident the temperature, which had been 101° F. in the morning, rose to 103°; the patient shivered and said he felt as if an attack of ague were coming on. Early on the next morning he became very restless and the condition of the leg was as follows. The wound was definitely gangrenous in places and the whole thigh and leg were much swollen, red, and shiny; there were no emphysema and no crackling but in one and a half hours' time the limb had turned a dusky purple colour and was obviously the seat of an acute spreading gangrene. The man's condition was now too bad to admit of an amputation, so all the stitches were removed and frequent dressings with hot gauze fomentations were ordered, together with stimulants. On the 16th the leg was black and green about the seat of fracture and large black bullæ had made their appearance; the thigh was tense, purple, but not emphysematous; dusty patches of purple had come out on his face and arms and he died at midnight, 80 hours after admission.

Some of the fluid from a bulla was drawn off in an aseptic pipette and sent to the bacteriological department for investigation. I am indebted to Dr. C. Slater for allowing me to make use of his notes on the bacteriology of the case.

Bacteriological examination.—The material examined was clear blood-stained fluid obtained during life from a bulla on the gangrenous limb. In unstained preparations nothing could be seen, but in stained specimens cleared in acetic acid a small number of large square-ended, Gram-staining

bacilli were found, occurring in single elements for the most part but also found in chains of two or more rarely of three elements. No other organisms could be seen. Aerobic and anaerobic cultures were made from the fluid. The aerobic cultures were not sterile but showed no organism resembling the bacillus seen in the fluid. Anaerobic cultures yielded a bacillus resembling that in the bulla and a streptococcus which persistently appeared in the cultures. After some subcultures the bacillus was obtained pure and from its action on animals would appear to have been the cause of the gangrene. Subcutaneous inoculation of one cubic centimetre of a broth culture killed the animal in 24 hours. The guinea-pig soon became ill, had a swelling at the site of inoculation, and showed convulsions of the hind limbs. At the time of death the local swelling had disappeared and there were no sign of injury at the site of inoculation and no emphysema or bullæ. On section, however, a most extensive subcutaneous œdema was found which practically stripped the abdominal skin from the subjacent tissues, which latter were red and infiltrated. In places the tissues were œdematous but there were no gas and no odour of putrefaction. There was much fluid in the tissues which drained into dependent parts. The organs of the chest and abdomen were apparently healthy and there was no peritonitis. The subcutaneous fluid was crowded with bacilli. Anaerobic cultures from the cardiac blood and the subcutaneous fluid yielded growths of the inoculated bacillus, the former in a pure state, the latter contaminated by a streptococcus, as in the original tubes from the bulla. The bacillus is a large, probably motile, Gram-staining, anaerobic organism producing in culture on (1) agar, moderately large greyish-white, rather transparent colonies, with a thickened centre and transparent edge; (2) gelatin, liquefaction with faint turbidity; (3) serum, a thin dry growth; (4) potato, an "invisible" growth; and (5) milk, cultures resembling those produced by bacillus enteritidis sporogenes but without evidence of any copious production of gas. In none of the cultures could any evidence of spore formation be detected.

Cases very similar to the above were reported from this laboratory by Dr. Slater in THE LANCET of July 20th, 1889, p. 108, and by Dr. H. R. D. Spitta in the Transactions of the Pathological Socety, Vol. LIII., Part 2, 1902.

Organisms usually anaerobic have been isolated from many cases of spreading gangrene. Though generally identified as bacillus aerogenes capsulatus, bacillus enteritidis sporogenes, or bacillus œdematis maligni, the organisms isolated rarely conform strictly to the classical descriptions of these microbes. In the present instance the bacillus obtained seems to be most nearly related to the bacillus aerogenes capsulatus though differing in some respects.

Quite recently there has been in the hospital a case of acute spreading gangrene following compound fracture similar to the above. The case was under the care of Mr. Jaffrey and Mr. W. F. Fedden. Gangrene made itself evident 31 hours after the accident and the limb was amputated by Mr. Fedden within 35 hours from the time of the accident, and the man made an excellent recovery. The bacteriology of the case is exactly similar to that already quoted—namely, cultures were obtained of a variety of the bacillus aerogenes capsulatus, and it was impossible to discover any attempt at spore formation.

In conclusion, I have to express my gratitude to Mr. Jaffrey and to Mr. Fedden for allowing me to publish these two cases, and to Dr. Slater for allowing me to make use of his notes on the bacteriology of each case.

A CASE OF ERYTHROMELALGIA.

BY REGINALD G. HANN, M.R.C.S. ENG., L.R.C.P. LOND.

THE majority of recorded cases of erythromelalgia have been, as Weir Mitchell in 1878 originally suggested, intercurrent troubles in the course of disease of the central nervous system. The case now reported must, for the present at least, be considered as idiopathic.

The patient was a married woman, aged 50 years; she had never been pregnant. It seems likely that her occupation as a baker may have been a factor in the causation of her disease, for she practically lived in two rooms, one of which was an unwarmed shop open to the street and the other a very hot room situated over a bakehouse and itself containing a baking-stove in constant use; she was in consequence exposed to very great variations of temperature and was also continually upon her feet.[1] Her previous medical history is a record of many illnesses and numerous ailments. In 1897 she was laid up for eight months as a result of concussion of the brain received in a railway accident. Closely following upon this she was disabled for five months by a painful swelling of the heel, which she insisted very much resembled her present disease. It was too painful to allow her to walk and evidently puzzled her medical attendant, who on more than one occasion desired to incise what he took to be an abscess; she refused to allow it and eventually it cleared up without surgical interference. During the following year she had acute rheumatism and since then many attacks of sciatica, lumbago, and muscular rheumatism. In 1905 she had an acute iritis with adhesions, the cause of which was not apparent. Her present illness began at the end of August, 1906, with pain in the right foot as though she had sprained it. It varied in degree but was not disabling in severity and she continued to work for three weeks when the appearance of a swelling and great increase in the pain drove her to bed. I now saw her for the first time. There was a bright red swelling about the metatarsal region of the right foot to be seen on both dorsal and plantar surfaces; it involved the second toe but not the others. This swelling did not pit and had the light puffy character of an œdematous eyelid; it was the seat of acute pain with a subjective feeling of intense heat, becoming almost unbearable on placing the foot to the ground. The foot was exquisitely tender on the slightest pressure; the superficial veins were distended and prominent; no change of position affected the objective signs of swelling and redness. For two weeks pain of great severity continued without intermission and in consequence she had very little sleep, took food badly, and her general health suffered. Following upon this long attack some improvement appeared, for though a steady, dull ache was present and increased at times to severe pain, still these paroxysms, lasting at first two or three hours and recurring several times a day, soon became less frequent and more bearable; as before the pain was always associated with a subjective feeling of intense heat and was not accompanied by objective changes in the foot. The knee-jerks and plantar reflexes were normal; tactile sensation was not affected. The exciting cause of the exacerbations could not be determined, but any indiscretion such as placing the foot on the floor or allowing it to become too hot in bed, would be sufficient to induce an attack.

As the acuteness of the disease passed away local changes were observed. The swelling, now mahogany-brown in colour, persisted, but was doughy and pitted on pressure and was suggestive of pus formation; to a great extent it had lost its tenderness even to deep pressure, and though the pain was still too severe to permit of walking, it was no longer agonising in severity, nor was it intensified by the dependent position. This stage was most clearly defined during the first week in November after ten weeks of illness. She continued to improve and began to get about the house with the aid of a stick when, early in December, the disease began in the left foot. At this time free desquamation was taking place in the right foot. After a week of pain and a subjective feeling of great cold the left foot became very tender, swollen, and pink, with a subjective feeling of burning. She was again confined to bed. On Dec. 17th she had such pains about her fifth left metacarpal bone that she was obliged to keep her hand in a sling, and although on the following day the pain had gone, on the 23rd, to her great distress, a pink hot swelling with much pain and dilated veins made its appearance. The pain was relieved by placing the arm in a sling but this had no effect upon the swelling or its pink colour. Immediately afterwards a slighter attack occurred in the corresponding part of the right hand. The symmetrical distribution of the lesions was now very striking.

The left foot desquamated during January, 1907; as in the case of the right foot it was not due to local therapeutical applications. From this time the disease became less troublesome. She was able to take short walks and to resume part of her work, though prolonged standing or much exercise gave rise to pain and occasionally to sensations of burning. Objectively there was nothing beyond slight fulness on the dorsum of each foot. This was the condition

[1] Cf. Gerrard (cases in Malays): Dublin Journal of Medical Science, 1904.

still present at the end of April, 1907, and it was interesting to note that during that month she had been complaining of frequent flushings of the face similar to those she had experienced at the menopause. Throughout her illness careful and repeated examination failed to reveal any signs of arterial or central nervous disease.

Treatment was unsatisfactory. The affected limb was always raised. Of local applications glycerine of belladonna with hot fomentations and alternately cold-water packs gave some relief, provided that extremes of heat or cold were avoided. Internally aspirin, salicylate of sodium, ergot, and calcium chloride all in turn seemed to do good when first ordered, but were soon given up as useless.

This patient showed three clearly defined stages of the disease: (1) A premonitory one of severe pain, now better, now worse, without swelling or redness; (2) an acute stage of the severest pain, worse in the dependent position, with a tender, pink, puffy swelling; and (3) a chronic condition with slighter pain except on using the limb (attacks no longer spontaneous), with tenderness only on deep pressure, and a brown-red swelling. In the hands this last stage was represented by slight tenderness without swelling or discolouration.

Some points in the case may be briefly noticed. Unlike the cases recorded by Collier,[2] in which the erythromelalgia was a symptom-complex in the course of disease of the central nervous system (tabes, insular sclerosis, traumatic neurasthenia, &c.), in my case pain always preceded the appearance of vaso-motor (objective) signs. The length of the first attack—two weeks—is unusual, the attacks individually generally lasting for a few hours. Desquamation is certainly rare; it occurred in a case under Voorheis.[3] At no time did the discolouration suggest the blueness of venous obstruction. The flushings of the face afford another indication of the instability of the patient's vaso-motor apparatus. Varying degrees of generalisation of the vaso-motor or sensory symptoms of the disease have been not uncommonly reported; one of Weber's patients suffered habitually from hyperæmia of the face and tongue.[4]

The case impressed one with a feeling of the ease with which erythromelalgia, and especially less typical instances of it, could be overlooked in the course of general practice.

Leeds.

Medical Societies.

ROYAL SOCIETY OF MEDICINE.

PATHOLOGICAL SECTION.

President's Address.—Fatty Degeneration of the Blood.—Macroglossia Neurofibromatosa.—Imperfect Hermaphroditism.

A MEETING of this section was held on Oct. 15th, Mr. S. G. SHATTOCK, the President, being in the chair.

The PRESIDENT, after making some historical allusions to the evolution of pathological science, observed that it was a favourite belief of his that there would always be a new disease for anyone to discover who seriously undertook the task of differentiating it from the number of undiagnosable and obscure conditions, both clinical and pathological, which so frequently obtruded themselves into notice. Their present conception of pathology was that of a science which must be studied from every side, for additions to it had not infrequently been made from wholly unexpected quarters. They could not recognise a pathology from which clinical observation and physiology any more than botany and zoology and physics and chemistry were excluded. In London, possessed as it was of so vast an amount of clinical material, it was especially fitting to investigate disease in its more immediate relation to medicine; together pathology and medicine might be studied with the highest mutual advantage; to divorce them would be disastrous to the progress of both.

The PRESIDENT and Mr. L. S. DUDGEON made a communication upon Fatty Degeneration of the Blood. One peculiarity in the constitution of the blood whereby it differed from other tissues was the fact that although its cells, as in the more stable forms, undergo division, both mitotic and amitotic, and had in this sense a life of their own, yet the primary sources of its elements were the blood-forming organs. The blood degeneration which had been as yet most studied (other than the so-called polychromatophilia of the red cells) was that usually regarded as glycogenic and consisted in the abnormal—i.e., excessive—appearance of glycogen, chiefly in the finely granular polymorphonuclear leucocytes, although granules occurred also in the eosinophile or coarsely granular polymorphonuclear cells, and to a lesser degree in the lymphocytes. If pathological effusions, such as those of pleurisy and peritonitis and purulent exudations, were excepted, the process of fatty degeneration had hitherto been looked for and studied only in the solid tissues. Yet it would be apparent on theoretical grounds that in cases where fatty degeneration of the last-named tissues was due to a deficient oxygen-carrying power of the blood, or to a toxic condition of it, the state of the blood might react upon itself so as to induce similar changes in its own leucocytes. Without entering into the chemical question as to the source of the fat in fatty degeneration, how far, that is, it was due to a transformation of the proteid of the cell and how far to the accumulation of fat reaching the cell from without and appearing in it because not utilised, the cardinal difference between the two processes remained, even though the source of the fat should be the same in both. In the one case the fat accumulated or was stored in a cell of which the cytoplasm was uninjured; in the other it appeared for the reason that the latter was damaged and rendered incapable of utilising the fat which reached it. With the fat that was not free but combined in the cell neither term dealt; the presence of this was not recognisable either by its microphysical or microchemical properties. At the outset it was obviously essential to exclude the use of fat solvents, like absolute alcohol and ether, as fixing reagents, and essential also that the blood should not be dried. The method finally chosen was that of making films on slides and cover glasses. The film having been made on the slide in the usual manner the latter was immediately placed with the film downwards in a specially-devised chamber of formol vapour. After not less than 15 minutes (though the films might be left in the vapour for 24 hours or longer) the slide was removed and at once placed in the vertical position in a glass of "Scharlach" for from 24 to 48 hours. Hæmalum was used afterwards as a cell stain. Their examination of blood films extended altogether to 79 cases and comprised various morbid conditions. Nevertheless, it was in comparatively few that the President and Mr. Dudgeon satisfied themselves of the presence of fat in the leucocytes. Fat was found in the following cases: chlorosis, chronic Bright's disease with anæmia of chlorotic type, carcinoma of the pylorus with anæmia of chlorotic type, influenza, pleurisy with pericarditis, toxæmia of pregnancy, acute pneumonia, purpura, diabetes with lipæmia, myelæmia, lymphadenoma, and acute cerebro-spinal meningitis. If these cases were analysed it would be found that most of them came in the category of toxic diseases, some of an acute and others of a chronic kind. In regard to the toxic conditions the President and Mr. Dudgeon believed that the fatty change present in the finely granular polymorphonuclear leucocytes resulted from the direct action of the toxic substances present in the blood itself; that is to say, that the change was one of proper fatty degeneration as distinguished from the ingestion or storage of fat by a healthy cell. The fineness of the fatty points, their varying number in different cells in the same film, and the fact that they occurred in abundance in cases where the condition of the patient excluded the possibility of so large an amount of fat being merely ingested from the blood by the circulating leucocytes all pointed to that conclusion. Thus in the three cases of acute pneumonia the blood was taken in one on the sixth day two hours after the crisis; in another on the fifth or sixth day before the crisis; and in the third five hours after the crisis. Furthermore, the fact that in such an acute disease fatty degeneration actually did occur in the renal epithelium and cardiac muscle proved the ability of the toxins to effect such damage also upon the circulating leucocytes. That the degeneration of the leucocytes had occurred in the blood and not in the bone marrow might be held as almost certain. It might have been thought, *a priori*, that the presence of fat in the finely granular polymorphonuclear leucocytes would be a sign of grave significance as indicating not only a high degree of toxæmia but an interference with the

[2] Collier: THE LANCET, August 13th, 1898, p. 401.
[3] Voorheis: Medical News, New York, 1904.
[4] British Journal of Dermatology, February, 1904.

function of cells, the phagocytic integrity of which was of such importance in the cure of a disease like pneumonia. For the leucocytes so altered must have lost for the time their physiological capacities. They would be much in the same condition as the pus cells in an acute abscess, rendered fatty by the toxic action of pyogenic micro-organisms. This prognostic conjecture, nevertheless, was not borne out by observation. Thus recovery ensued in the three cases of acute pneumonia in which a certain number of the polymorphonuclear leucocytes contained fat. In diphtheria and pernicious anæmia the President and Mr. Dudgeon had found the leucocytes laden with fine granules which, though deeply stained, did not exhibit the transparency and proper red colour of ordinary fat. For convenience, they named the appearance "Scharlach granulation." The granulation was not unlike the glycogenic as displayed in the leucocytes after treatment of blood films with iodine solution. In most cases the iodine reaction took the form of a diffuse brown colouration of the cytoplasm of the finely granular polymorphonuclear leucocytes but it might take that of a fine stippling. They excluded that explanation, however, for the reason that the Scharlach granulation was not to be observed in control cover-glass films if treated with absolute alcohol before being transferred to the dye. The glycogenic reaction, on the contrary, was as readily obtained after that treatment as without it. They had, moreover, found that glycogen was uncoloured by Scharlach. For the present, therefore, they were forced to leave the nature of the Scharlach granulation undetermined. Nevertheless, its appearance in diseases in which a fatty degeneration of the leucocytes might have been anticipated and the fact that in some cases of acute pneumonia the proper Scharlach reaction of the points in the cells was obtained, whilst in others it had the brown opaque Scharlach granulation, made them conclude that the granulation was indicative of a degeneration; and seeing that it was not obtainable after the treatment of the blood films with absolute alcohol, they concluded that it was allied to that known as fatty.

Mr. W. G. SPENCER and the PRESIDENT showed a case of Macroglossia Neurofibromatosa illustrated by drawings and photographs. The first case of this remarkable condition is that recorded in the Transactions of the Pathological Society, Vol. LIV., 1903. The present case was in its main features remarkably like the first, except that the patient was an adult and the disease considerably larger in absolute mass, if not relatively. A man, aged 24 years, came under the care of Dr. G. K. Grimmer of Hounslow for a tumour in the left submaxillary region with some enlargement of the left half of the tongue. There was removed from the neck a portion which was recognised as probably part of a neurofibroma and in the following three months the left half of the tongue had so enlarged as nearly to fill the mouth and to induce signs of dysphagia and dyspnœa. Therefore Mr. Spencer removed the whole through a submaxillary incision; the disease was strictly limited to the left half of the tongue; the mass in the neck was shelled out from the structures in the anterior triangle and the patient recovered well; the only other point noticed in him was a small pigmented molluscum fibrosum below the right angle of the mouth. The President had dissected the specimen for the Museum of the Royal College of Surgeons of England. The whole was composed of a tortuous mass of nerve fibres developed from the lingual and hypoglossal nerves, the nerves being enormously enlarged by a diffuse endoneural growth of soft fibrous tissue.

Dr. C. G. SELIGMANN and the PRESIDENT gave a description of a fowl that showed Imperfect Hermaphroditism. On dissection a well-developed normal oviduct, patent at both ends, was found. The sexual gland was single and deeply lobulated. Certain of the lobules presented no epithelial structures but consisted only of vascular or cavernous connective tissue. Other lobules showed irregular columns of epithelial cells, devoid of lumen, supported in connective tissue and resembling Pflüger's tubes. Other lobules contained larger tubuli lined with columnar cells as in the testicle. Neither spermatogenesis nor ovogenesis was seen. The hermaphroditism was much less marked in degree than in a case previously described by Dr. Seligmann and the President where the sexual gland was bilateral and ovogenesis and spermatogenesis were in progress. Dr. Seligmann and the President thought the case of interest as bearing upon the theory which they had advanced—viz., that the transformation of plumage in the female of certain birds to that of the male, accompanied as it sometimes was by the cessation of laying and the acquirement of male instincts, indicated a hermaphrodite condition of the sexual gland, the male constituent of which commenced to perform its functions after the atrophy of the female part.

OBSTETRICAL AND GYNÆCOLOGICAL SECTION.

Cæsarean Hysterectomy for Atresia Vaginæ.—Œdematous Fibroma of the Pelvis.—Physiological Action of the Placenta.—Exhibition of Specimens.

The inaugural meeting of this section was held on Oct. 10th, Dr. HERBERT R. SPENCER, the President, being in the chair.

Dr. AMAND J. M. ROUTH reported a case of Cæsarean Hysterectomy for Atresia Vaginæ. The patient consulted him at Charing Cross Hospital in March, 1906, a fortnight after delivery for incontinence of urine. He then found that the anterior portions of the vaginal and supravaginal cervix had been torn away with the roof of the vagina and base of the bladder. He successfully repaired the bladder injury and in three months' time the woman became again pregnant. She again came to the hospital in July this year, being then actually in labour. Finding that there was much vaginal atresia and that if labour proceeded further irremediable injury would be caused to the bladder Dr. Routh removed the child by Cæsarean section and the uterus by sub-total hysterectomy. Both mother and child recovered without further incidents. Dr. Routh advocated Cæsarean hysterectomy in all such cases and gave a table of 30 similar cases in which it had been performed with a mortality of 20 per cent. In the 11 cases in which the stump was treated by the intraperitoneal method all the mothers recovered.—The PRESIDENT said that he agreed with Dr. Routh that the extensive cicatrisation involving the bladder furnished a clear indication for Cæsarean section to be followed by hysterectomy. He had seen very extensive vaginal cicatrices yield to the pressure of the head in natural delivery, but in Dr. Routh's case this would have entailed great risk of injury to the bladder. He would prefer total hysterectomy if practicable to supravaginal hysterectomy on account of the free drainage which it afforded.

Dr. W. W. H. TATE read a short communication on a case of Œdematous Fibroma of the Pelvis. The patient was a married woman, aged 39 years, who had had five children. Since the last confinement six years ago she had noticed enlargement of the abdomen. On admission into St. Thomas's Hospital the lower part of the abdomen was found to be occupied by a very ill-defined swelling. To the left of it the uterus could be made out, of the size of a duck's egg. Abdominal section was performed and the tumour was found to consist of a large, flattened, œdematous mass covered with peritoneum and imbedded in the pelvis. After securing many large vessels the tumour was removed by enucleation. The cavity thus left was packed with gauze and the uterus was then removed. The ends of the gauze plugs were brought out through the vagina and the peritoneum was brought together so as to cover up the large cavity in the pelvis. The patient had two attacks of secondary hæmorrhage and subsequently some sloughing of the walls of the cavity occurred, but she ultimately made a good recovery. Dr. Tate found it difficult to say in what structures the tumour originated but it certainly had no connexion with the uterus.

Professor W. E. DIXON and Dr. FRANK E. TAYLOR gave an epidiascopic demonstration on the Physiological Action of the Placenta. They set forth the results of an investigation in which they were engaged into the physiological effects which resulted from the intravenous injection of placental extracts into cats, rabbits, and dogs. The extracts were made by mincing fresh normal human placentæ, extracting with absolute alcohol, evaporating to dryness, and taking up the residue in saline solution. A series of tracings showing the results they obtained were projected on the screen by means of the epidiascope and the effects of intravenous injection of placental extract on the circulation, the intestinal volume and movement, and on the uterus were demonstrated. There was a striking rise of blood pressure, following a preliminary fall on injection, which was chiefly due to constriction of the peripheral arterioles. The general effect on the circulation was very similar to that produced by adrenalin but differed from this in three ways: (1) a less rapid rise of blood pressure; (2) a more prolonged rise; and (3) a less marked cardiac effect. Intestinal volume was decreased and its movements were inhibited. In the uterus the results

differed in the pregnant and non-pregnant condition. In the pregnant uterus there was an increased tonus of the uterine musculature, together with a well-marked increase in its rhythmic contractility. They concluded that the placenta produced a chemical substance which developed with the ripening of the placenta, the liberation of which by contracting the uterus and the vessels might induce the onset of normal labour.—The PRESIDENT thanked Professor Dixon and Dr. Taylor for the interesting and valuable demonstration which they had given and said that he hoped that many more papers dealing with experimental work would be read before the section. He asked whether the authors' results tallied with those of Acconci who had written somewhat extensively on the subject of placental extracts. Acconci's work, "Researches on the Formation of Plastein from Placental Extracts," published in 1906, had just come into his hands, so that he had not had time to master its contents. He thought that Professor Dixon and Dr. Taylor in "suggesting a tentative hypothesis" were wisely cautious in drawing conclusions from their experiments.—Dr. MACNAUGHTON-JONES said that watching the results of the experiments on the blood pressure and seeing that the increase appeared to be greater than that of adrenalin, placentine would probably prove a valuable physiolcgical agent for administration previously to anæsthetisation in serious abdominal operations, the more so now that the scopolamine, morphine, and chloroform method was frequently adopted.—Dr. ROUTH alluded to his case of parturition during paraplegia,[1] when the spinal cord had been destroyed by injury in the dorsal region five months previously. Dr. F. W. Mott and he had suggested that labour was, partly at all events, induced by the metabolism of the pregnant uterus. That case clearly proved that lactation, which was normal, could not have been induced by reflex nervous actiol, for the spinal cord was destroyed between the nerves going to the breasts and uterus and Dr. Routh then pointed to a bio-chemical cause arising in the uterus as being the probable exciting cause, acting through the blood. Had Professor Dixon and Dr. Taylor experimented in this direction by noting the effect of the injection of placental extract upon mammary gland activity? He agreed with Professor Dixon and Dr. Taylor that perverted metabolism might produce an auto-toxæmia which might cause albuminuria, acute yellow atrophy of the liver, insanity, and hyperemesis gravidarum.—Dr. W. S. A. GRIFFITH said that he could not accept the chief conclusion which Professor Dixon and Dr. Taylor had drawn, for which there appeared to be no evidence whatever—viz., that a substance contained in the placenta, though ascertained to increase uterine contraction, was the cause of labour either premature or at full time. The question of the nature of the labour pains as distinguished from the contractions which were known to occur throughout the active sexual life of woman and were so obvious during the course of pregnancy was too large a one to attempt to discuss on that occasion. It appeared to him that the contractions of pregnancy were comparable to the colicky pains of contraction of the bowel unrelieved and that the essential difference in each case consisted rather in relaxation of the orifice than of a new form of contraction. There were many agents which increase uterine contraction but which were almost useless for the induction of labour.—Dr. C. J. NEPEAN LONGRIDGE asked Dr. Taylor whether the induction of labour was a long process in the case of the induction at 36 weeks in which he found the placental extract was very active. He mentioned that he had found a definite and progressive rise of blood pressure in a moderate number of primigravidæ during the latter months of pregnancy.

The following specimens were exhibited:—

Dr. T. W. EDEN: Chorion-epithelioma of the Uterus with Metastasis in the Vagina, Lungs, Liver, and Brain.

Dr. R. WISE: An Instrument.

Mr. J. BLAND-SUTTON: A Pregnant Uterus with Fibroids.

OPHTHALMOLOGICAL SOCIETY.

Presidential Address.—Extradural Tumour of Optic Nerve.—Exhibition of Cases and Specimens.

THE first ordinary meeting of this society was held on Oct. 17th, Mr. R. MARCUS GUNN, the President, being in the chair.

On taking the chair as President of the society Mr. GUNN referred to its constitution on June 23rd, 1880, at a meeting of physicians and ophthalmic surgeons in the same building which it now occupied, under the chairmanship of William Bowman. The work of the first session included such important material as Symmetrical Changes in the Region of the Yellow Spot in each Eye of an Infant, by Waren Tay, being the first observation of what is now known as "amaurotic family idiocy"; the Relation of the Retinal Changes to the other Pathological Conditions of Bright's Disease, by William Brailey and Walter Edmunds; Two Cases of Retinal Detachment in Renal Retinitis, by Dyce Davidson and Dr. Quinlar respectively; on Primary Intraocular Hæmorrhage, by Jonathan Hutchinson; Retinal Hæmorrhage in Progressive Pernicious Anæmia, by Stephen Mackenzie; Cases of Symmetrical Amblyopia with Central Scotoma in Diabetes with Microscopical Examination of the Optic Nerve, by Edward Nettleship and Walter Edmunds; on Eye Symptoms in Locomotor Ataxy, by Hughlings Jackson; on Ophthalmoplegia Interna, by J. W. Hulke, with a discussion in which Gowers advanced the view of the cause of this affection being disease of part of the third nerve nucleus; report of a committee of the society on Colour-blindness; and an important discussion on the Relation between Optic Neuritis and Intracranial Disease, introduced by Hughlings Jackson. This was a notable year's work and was worth recalling as an instance of the vigour and broad aims of the young society. After referring to the great value of the society in various ways to its members, the President proceeded to say that valuable discussions had since been held which had proved of permanent value, such as that on the Relation between Optic Neuritis and Intracranial Disease, on Eye Symptoms in Disease of the Spinal Cord, on Graves's Disease, on Toxic Amblyopia, and on Retro-ocular Neuritis. Two discussions only had been held on purely surgical matters—viz., on Sclerotomy and on the Operative Treatment of High Myopia. Special committees of the society had considered and reported on several subjects of importance. The first of these was that of colour-blindness, which was instrumental in drawing attention to the prevalence of this condition among the population and its especial frequency in deaf mutes. The second considered the possibility of the prevention of blindness from ophthalmia neonatorum. Its recommendations were accepted by the Local Government Board in Ireland but were rejected in England chiefly on the ground of expense. It would be instructive to know how many men and women there were to-day with damaged sight due to neglected ophthalmia neonatorum and how much the annual public burden had been increased in consequence, though some benefit had followed from the attention drawn to the subject among those engaged in teaching midwifery. A third committee reported on the action of carbon bisulphide and chloride of sulphur fumes both on vision and health, thus leading to improvements in ventilation and protection in certain industries. A fourth report embodied much laborious work on sympathetic ophthalmitis, based on the consideration of some 200 cases—one of the facts brought out being that the disease rarely, if ever, occurred without a perforation of the coats of the exciting eye. A due estimate of the value of simple excision of the eye and of operations that had been substituted for it, the recognised importance of ophthalmic work as a compulsory part of the curriculum, and the significance of "albuminuric retinitis" in life prognosis were each the outcome of the society's work. The more general communications might be grouped under the subject headings: Physiological, Congenital, Surgical, Clinical, and Pathological; and in each of these the President quoted a long list of additions to knowledge. Besides these there had been valuable communications on comparative anatomy and heredity, one family history being of unique length and completeness where night-blindness was traced through nine consecutive generations. Though much had been accomplished, more and better light was required on many parts of ophthalmology. There were many ocular diseases the true etiology of which was still imperfectly known, especially perhaps some of those affecting the cornea, iris, and choroid. They knew very little regarding the real causation of partial or complete obstruction of the central retinal vein or its branches, although much suggestive pathological work on this subject had recently been done by Mr. G. Coats. They still awaited the explanation of recurrent retinal hæmorrhages in apparently healthy subjects with otherwise sound eyes and of opacities in the lens which were not in

[1] Transactions of the Obstetrical Society of London, 1897, vol. xxxix.

accord with the knowledge of its anatomy and nutrition. Prognosis, though a most important matter, was still often uncertain and a knowledge of the probable course and duration of some of the more difficult diseases could only come with more accurate knowledge of their true nature. As to treatment, there was also hope in the future. Within the last few years a great advance had been made in the knowledge of infective agents and the manner in which the body attempted to combat their invasion and strove to free itself from them and their effects. A new language had become necessary to express succinctly the facts observed and the theories founded upon these facts. There were the whole army of named micro-organisms and their toxins—combated by corresponding antitoxins. Was there more to be learned concerning the influence of ductless glands upon the nutrition of the eyeball and orbit and upon the visual function? A considerable amount of experience had now been gained in this country as to the efficacy of treatment by subconjunctival injections, and it would be interesting to know the opinion of members on this subject, expressed either in a discussion or a committee report, a mode of procedure which had been less frequent recently than in the earlier years of the society. An advance might also be made in coördinating and emphasising some of the cases exhibited at the meetings, many of which were of exceptional interest and importance but which could not be adequately considered in the time allotted to them. Would it not be possible to have standing committees of the society appointed annually, each formed of men particularly interested in some branch of work, whose duty it would be to report upon any case when the member showing it approved?

Mr. J. B. LAWFORD read a paper describing a case of Extradural Tumour of the Optic Nerve, illustrated by lantern slides prepared by Mr. G. Coats. The patient, an unmarried woman, aged 38 years, presented herself first on June 20th, 1906. On the left side the lids were puffy and red, the eye was protruded forwards and upwards with increased vascularity, but there was no œdema of the conjunctiva. The natural movements of the globe were restricted but there was no pain. Vision was reduced to the perception of light, the retinal veins were dilated and tortuous, and there were no hæmorrhages. The patient was otherwise healthy and neither tubercle nor syphilis could be traced in the family. In 1902 the vision was $\frac{6}{12}$ and the ophthalmoscopic appearances were normal. On July 12th, 1907, there were œ lema of the upper lid and marked proptosis which could not be reduced by pressure, and movements were restricted in all directions. Vision was entirely lost, but there were no definite changes in the fundus beyond tortuosity and distension of the veins. Tumour of the optic nerve was diagnosed, exostosis being excluded. On July 18th enucleation was performed after exploration, the nerve being divided as far back as possible. There was a good deal of hæmorrhage. Three similar cases had been published. Mr. J. Herbert Parsons had collected all the cases up to four years ago, 12 in all, three of which were in the society's Transactions. Two cases had been added since, the features of which were identical. Pathologically the growth was alveolar sarcoma or endothelioma which was not very vascular and the nerve itself was uninvaded.—Mr. W. LANG inquired about subsequent history of recurrence.—Dr. S. JOHNSON TAYLOR (Norwich) suggested that the case was suitable for Krönlein's operation.—Mr. E. TREACHER COLLINS referred to a similar case in which he had removed the nerve and surrounding growth from the left orbit, leaving the eye which retained its natural appearance with good movement, though blind.—Mr. LAWFORD, in reply, said the prognosis as to recurrence was good but not certain. The scar of Krönlein's operation was objectionable and in his case the tumour was too large for removal without enucleation.

The following cases and card specimens were shown:—

Mr. A. W. ORMOND and Dr. J. W. H. EYRE: (1) Tuberculous Ulcer of Palpebral Conjunctiva treated by Tuberculin; and (2) Bilateral Proptosis, ? Tuberculous Periostitis of the Orbit.

Mr. S. STEPHENSON: A case of Tubercle of Choroid and ? Retina.

Mr. E. E. HENDERSON: Specimen of Flat Sarcoma of Choroid.

Mr. M. L. HEPBURN: Cholesterin Spangles in a Cataractous Lens.

Mr. W. H. H. JESSOP: Recurrence of Sarcoma at the Limbus.

THE SOCIETY OF TROPICAL MEDICINE AND HYGIENE.

Sleeping Sickness.

A MEETING of this society was held on Oct. 18th, Sir PATRICK MANSON, the President, being in the chair.

Dr. F. M. SANDWITH read a letter from Sir H. H. Johnston calling attention to the appalling ravages of sleeping sickness in the western part of the Congo Basin and Uganda.

Dr. ALBERT R. COOK delivered an address on Sleeping Sickness as met with in Uganda. He observed that Greig had given them by far the best general diagnostic method for clinical use—i.e., by puncture of the swollen cervical glands so frequently met with in that disease. The resulting gland juice when examined under a one-eighth objective would usually show trypanosomes and those were frequently numerous even in the early stages of the disease. It was only fair to add, however, that even in well-established cases they had not always detected trypanosomes even on repeated puncture; that in some people with small glands, especially if the latter were hard and shotty, the amount of gland juice obtained might be very small and it might indeed be very difficult to obtain any; and that only the positive recognition of the trypanosome was valuable since enlarged cervical glands were common in syphilis (from which 10 to 15 per cent. of the population suffered) in impetiginous diseases of the scalp and face, ulcerated throats, &c. From the point of view of prophylaxis four important methods were being adopted in Uganda. First, those actually suffering from sleeping sickness were being collected so far as possible and segregated in isolation camps, where each man, the presence of trypanosomes having been verified in his body, underwent thorough treatment with atoxyl. Every care was taken to remove prejudices from the native mind and an excellent work was being done. The second method was the compulsory eviction or removal of all natives from infected tsetse-fly areas. That bristled with difficulties. The Uganda police were too few in number to patrol a large area efficiently. The natives clung to their old homes and plantations and not one in a thousand believed that the tsetse fly which they called "Kivu" really conveyed the disease. Moreover, the islands, the worst foci of the disease, were almost necessarily left alone. The third method was the clearing of extensive areas round landing places, markets on the lake shore, watering places, and the necessary Government or trading stations on the lake. The fourth method was the printing in the native tongue clear instructions as to the nature of the disease, how it was spread, the importance of clearing away the undergrowth in which the "Kivu" lived, and the urgent need for segregation of those actually sick, while they enlisted by every means in their power the active coöperation of the chiefs. In regard to personal prophylaxis the European, even when living within the dangerous area, was but little exposed to infection if he used his knowledge intelligently. His bungalow should not be built near the water's edge or close to native compounds. The ground for a considerable area round his station should be cleared and, what was more difficult, kept clear of undergrowth, especially of bushes in the shade of which the tsetse fly was found. His dwelling should be protected by gauze screens or fine wire netting and his bed by a mosquito-net, while the native porters who brought his water from the lake should not be allowed to enter the house, for tsetse flies often buzzed persistently round the heads and shoulders of those porters and followed them for long distances. Tsetse flies had been discovered inside European bath-rooms at Entebbe at some considerable distance from the lake doubtless introduced in that way. Koch told him that he and the officers of his expedition were simply depending on living away from the water's edge which the tsetse fly frequented—their camp was some 400 feet above lake level—and on wearing white garments, since the fly was repelled by white but attracted by dark clothing. Atoxyl was by far the best drug that had yet been tried, and it was greatly to the credit of English investigators, who had all along stood in the front rank of the army of successful research in tropical medicine, that an Englishman (Thomas of Liverpool) first applied it to the treatment of sleeping sickness. Atoxyl was a snow-white powder, fairly soluble in water, the latter taking up about one-sixth part by weight of the salt. It slowly decomposed, especially if exposed to sunlight, the solution turning bright yellow and presumably

aniline being formed. A saturated solution of atoxyl in distilled water formed a 22 per cent. solution. Of that they used two cubic centimetres as a dose. At first they followed Koch's method and gave a hypodermic injection with the usual aseptic precautions and in the usual gluteal and interscapular regions on each of two successive days. An interval of 18 days was then allowed to elapse and two more injections were given. The patients were then discharged and allowed to come up as out-patients. Lately they had greatly increased the frequency of the doses, though not the strength of the individual doses, giving, for example, a dose on every other day or in one case on every day for seven or eight times and repeating the doses on two successive days every fortnight. The immediate effect on a bad case was really magical. Even when cases applied for treatment in too late a stage of the disease for any hope of cure by atoxyl, it yet seemed powerfully to influence the nutrition of the body, for they died without bedsores or extreme emaciation—the stage of dying was, so to speak, rendered more comfortable for them. Microscopically, the trypanosomes after a full dose of atoxyl could no longer be found in the gland juice a few hours after the first injection. There must be a great destruction of them somewhere and yet others, perhaps immature or encysted forms, must survive, for the fact was being slowly recognised that even after repeated and full doses of atoxyl the disease was not cured; sooner or later the trypanosomes reappeared. Atoxyl was expensive; after the 10 per cent. duty had been levied at the coast and carriage had been added its price was about £14 sterling per pound. It had been suggested that the salt known as sodium amino-phenyl arsenate, which could be obtained at less than one-fifth the cost of atoxyl and which had a similar chemical composition, might do equally well. He should certainly give it a trial.

The paper was discussed by Dr. A. F. J. WOLLASTON, Dr. G. C. LOW, Professor E. A. MINCHIN, Mr. E. E. AUSTEN, Dr. L. W. SAMBON, and the PRESIDENT.

NORTH OF ENGLAND OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.

Intraligamentary Bladder.—Post-climacteric Hæmorrhage.—Pathology of Solid Ovarian Tumours.

A MEETING of this society was held at Liverpool on Oct. 18th, Dr. E. O. CROFT (Leeds) being in the chair.

Dr. W. E. FOTHERGILL (Manchester) described the case of a single woman, aged 28 years, who complained of a bladder trouble dating from puberty. For about five years micturition was necessary every hour or so to relieve intense pain in the left iliac region. None of the usual causes of bladder irritability could be found. The uterus could not be retroverted and appeared to be attached to the back of the bladder and to press upon it as soon as two or three ounces of urine had accumulated. The abdomen was opened and it was seen that the utero-vesical pouch was practically absent, the bladder with the small anteflexed uterus lying between the layers of the broad ligaments. The peritoneum over the fundus of the bladder was incised and the organ was separated from the uterus. The peritoneum was united from side to side, so that the line of suture was antero-posterior, a utero-vesical pouch being thus formed. The fundus uteri was fastened to the peritoneum in the lower angle of the abdominal wound to keep the uterus from pressing on the bladder. The patient a year after the operation had greatly improved in health and had lost the pain which previously accompanied the distension of the bladder. The organ, however, was still irritable at times. Menstruation, which previously was rare and scanty, was now regular and profuse and the uterus had gained in size and tone since it was set free from the bladder.

Dr. ARCHIBALD DONALD (Manchester) communicated a case of Unusual Post-climacteric Hæmorrhage occurring in a woman, aged 66 years, who had one child 38 years ago. For 16 years there was no discharge of any kind, then irregular hæmorrhages began at variable intervals. Bimanually the uterus was of the size of a three months pregnancy. Vaginal hysterectomy was performed on May 8th, 1907, and the recovery was uneventful. On opening the enlarged uterus its cavity contained a growth apparently originating in the endometrium but invading the musculature. Microscopically cylindrical downgrowths of epithelial-like cells invaded the muscular wall. Professor J. Lorrain Smith pronounced it to be an endothelioma, probably originating in the lymph spaces of the endometrium of the uterus.

Dr. H. BRIGGS and Dr. T. E. WALKER) Liverpool) communicated a paper on the Pathology of Solid Ovarian Tumours. In the hospital and private practice of the former during 20¾ years 488 ovarian new growths were removed by operation. They were arranged in two groups, the cystic group of 439, including 284 adenocystomata, 44 dermoids, 36 broad-ligament cysts, 24 papillomata, 50 carcinomata, and 1 perithelioma (sarcoma); and the solid group of 49, including 31 ovarian fibromata, 3 fibromata of the ovarian ligament, 3 adenomata, 1 surface papilloma, 8 solid carcinomata, 1 solid teratoma (myxochondrosarcoma), and 1 cellular spleen-like tumour. In the cystic group Dr. Walker during a recent research had found 50 ovarian carcinomata and one ovarian sarcoma (perithelioma). The rarity of cystic sarcoma was alluded to and compared with the statistics of Voit and Martin and with the general statements found in text-books. The paper was otherwise exclusively confined to the solid tumour group. 31 fibromata in 488 indicated the occurrence of these tumours in 6·4 per cent.; the common text-book statement was 2 per cent. The wide range of structure observable amongst these tumours, from the structureless, or almost structureless, calcified fibroma to the highly cellular new growth, was pointed out, and especially in reference to the latter a brain-like tumour and a spleen-like tumour, each of large size, were specially dealt with. The former consisted of round cells and looked suspiciously sarcomatous when removed in March, 1897, from a girl, aged 15½ years; this patient was now alive and in vigorous health at the age of 26 years; the spleen-like tumour, as the after-history of the patient attested, was also innocent. The former was included in the fibromata but the latter contained so little tissue apparently fibromatous that it was placed in a separate table under its own briefly descriptive heading of a cellular, vascular, spleen-like tumour. These features, however, were exceptional in the structure of ovarian fibromata. The common fibromatous tumours in the series consisted of spindle and round cells, imbedded in a fully formed fibrous interlacement in varying proportions. The position of the ovarian fibroma amongst solid ovarian tumours was now well established and was no small tribute to the work of Leopold published in 1874. The fibromata included in the paper were arranged under the accepted forms of ovarian fibromata: 15 diffuse, nine circumscribed, and seven pedunculated. The diffuse, the most numerous, were bilateral in two cases and in seven instances the patient was beyond the menopause. Of the total menstruation was absent in two diffuse and in one circumscribed; otherwise it was regular in four diffuse, three circumscribed, and four pedunculated; irregular in one circumscribed and diminished in one diffuse. Pregnancy in two cases, both circumscribed, was undisturbed by the operation. The pedicles were twisted in one diffuse, one circumscribed, and one pedunculated. Ascites was recorded as present in 13 and absent in 18. It was least frequent with the circumscribed tumour, being present in two and absent in seven; with the diffuse form, absent in eight and present in seven; and with the pedunculated, present in three and absent in four. Its etiology was considered. The fibromata of the ovarian ligament and the valuable work of Doran in this connexion were alluded to. A solid teratoma, a rare surface papilloma, and a round-celled sarcoma were each described and illustrated. The rest of the paper consisted of a report by Dr. Walker on the solid adenomata, of which there were three cases, and on the solid carcinomata, of which there were eight cases—seven bilateral and one unilateral. Of the seven bilateral, six were definitely secondary, two to primary scirrhus of the breast, and four to growths in the large bowel. In the seventh case, in a woman, aged 48 years, the primary growth was unknown, consequently it was excluded. Six-sevenths of the evidence was in support of Bland-Sutton's conclusions that solid bilateral carcinomata were secondary. The case of unilateral carcinoma was described. The secondary tumours above referred to reproduced the structure of the primary growths—scirrhous carcinoma, colloid carcinoma, and adeno-carcinoma.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Oct. 18th, Dr. W. Langdon Brown, the President, being in the chair.—Dr. J. Dundas Grant read a paper on Some Danger Signals in Diseases of the Throat, Nose, and Ear. Among the signs indicating imminence of

greatest proportional value was extension of disease to vital parts. The bony roof of the tympanum was very thin and abscess of the temporo-sphenoidal lobe or the cerebellum could easily arise, while the labyrinth afforded ready communication between the middle ear and the meninges. The nose was in close relation to dangerous parts through the ethmoid cells, and in the presence of a nasal discharge, especially if unilateral and purulent, and the patient developed squinting, there was danger of meningitis. Disease of the pharynx led to perforation of the great vessels and death from hæmorrhage. Malignant disease of the œsophagus caused death by extension of the disease to the air passages by food getting into the lung. Laryngeal stridor was easily recognisable as it was inspiratory in character and in acute laryngitis it was of serious import if associated with increasing loss of voice. Tracheal stridor was partly inspiratory and partly expiratory and was often the only symptom of aortic aneurysm or new growth obstructing the trachea. Bronchial stridor was expiratory. Several diseases of the throat were so septic that they might cause danger through blood poisoning. In a case suggestive of quinsy with vocal symptoms and great disturbance of the constitution which could not be accounted for by peritonsillar abscess they should think of septic pharyngitis. In every case of discharge of the middle ear which was not typical they ought to think of tuberculosis. The external meatus was occasionally the site of epithelioma and at first might look innocent and like granulation tissue, but shooting pains in the neighbourhood suggested epithelioma rather than simple granulations, while the microscopic examination of part of the granulating mass was definitive. Persistent hoarseness in a patient over middle age was suggestive of cancer of the larynx, unless a papilloma or fibroma or syphiloma, &c., was present. Syphilis, which was a powerful predisposer of malignant disease, was often overlooked owing to the respectability of the patient. Vertigo in connexion with ear disease was a source of discomfort and might cause the patient to fall. It did not endanger life and of itself was not a symptom of ear disease, but if excessive it might point to cerebellar disease. In chronic suppuration of the middle ear vertigo suggested that the disease had invaded the labyrinth which was but a short step to the meninges. If syringing made the patient giddy cholesteatomata should be suspected and 50 per cent. alcohol used. In children with obscure dyspeptic troubles ear disease should be looked for.

UNITED SERVICES MEDICAL SOCIETY.—A meeting of this society was held at the Royal Army Medical College on Oct. 10th, when Sir Herbert M. Ellis, the Director-General of the Medical Service of the Royal Navy, the President, delivered an address to upwards of 80 members. After a few remarks as to the origin and formation of the society he went on to say that he considered it of the utmost importance that all members should recognise the non-official nature of the society, although it had been essential that the early pourparlers should take place between the head offices of the medical department of the two services. The attempt to bring together the medical officers of the different services by periodic meetings at which they could exchange ideas and retail their own experiences was likely to be attended with good results and should make them the better able to render worthy service to the empire. The naval medical officer when afloat found himself intrusted with the care of men who with himself had as their home an unstable tenement which was necessarily anything but a model hygienic dwelling, and it required the exercise of the most scrupulous cleanliness and the strict use of such means of ventilation as were available to maintain a fair average of health. The occurrence of zymotic disease on board ship was sometimes another difficulty to be faced. The medical officer of the army worked under other conditions but had similar obstacles to overcome. The Indian medical officer, from his experiences in a teeming native population added to his often varied duties, could bring something further to their councils and debates. They hoped to welcome their *confrères* in the colonies from time to time at their monthly gatherings and to profit by their knowledge and information gained often by permanent residence in various countries with which they themselves had probably only a slight acquaintance. The medical officers of the auxiliary forces would be able to bring an impartial criticism to bear upon their discussions—the criticism of citizens and civilians. In this way each could supplement the other's experience and a common fund of knowledge would result. Their first aim should be to enrol as members as large a number of officers as possible; in fact, to attract to the society every medical officer holding a commission in His Majesty's naval and military forces. The next step would be to start local branches abroad where the size of the station was suitable. For the present he thought it would not be politic to start branches at the naval and military stations at home. It would sap the strength of the central organisation before that strength was assured. By the kind permission of the Director-General of the Army Medical Service and by the courtesy of the Commandant they had been permitted to meet at the Royal Army Medical College. He considered that the length of the papers should be limited to half an hour so that time might be given for debate and criticism and for the exhibition of objects of interest. At present arrangements had been made for publishing the papers read at meetings in the *Journal of the Royal Army Medical Corps*, but they should aim at the publication of their papers and transactions in a periodical of their own, issued quarterly if not monthly. This would act as a bond between the various members of the society at home and abroad. The difficulty in the way would be chiefly financial but he hoped that they might arrive at some definite conclusion in this matter at the next meeting of the council in December.—The discussion dealt with the social and professional advantages of the society, the suggestion of amalgamation with the Royal Society of Medicine, and with the proposal to start a journal. It was finally agreed that the last subject should be considered by the council at its next meeting and brought before the members at the annual general meeting.—Major W. S. Harrison, R.A.M.C., Lieutenant-Colonel W. G. Macpherson, C.M.G., R.A.M.C., Colonel Sir James R. A. Clark, Bart., C.B., R.A.M.C. (Mil.), Lieutenant-Colonel P. J. Freyer, I.M.S. (retired), Inspector-General J. Porter, C.B., R.N., Colonel H. E. R. James, R.A.M.C., Fleet-Surgeon W. E. Home, R.N., and Lieutenant-Colonel Sir Havelock H. R. Charles, K.C.V.O., I.M.S., spoke.—Among members present were Surgeon General W. J. Fawcett, C.B., A.M.S., Surgeon-General A. M. Branfoot, C.I.E., I.M.S., Inspector-General J. W. Fisher, R.N., Deputy Inspector-General A. W. May, R.N., Colonel D. Wardrop, A.M.S., Colonel D. Bruce, C.B., F.R.S., R.A.M.C., Lieutenant-Colonel A. M. Davies, R.A.M.C., Colonel Valentine Matthews, V.D., R.A.M.C., Fleet-Surgeon J. Lloyd Thomas, R.N., Fleet-Surgeon W. M. Craig, R.N., Fleet-Surgeon P. W. Bassett-Smith, R.N., Lieutenant-Colonel A. B. Cottell, R.A.M.C. (retired), Major M. P. Holt, D.S.O., R.A.M.C., Dr. T. Ligertwood, C.B., and Surgeon F. J. Hannan, R.N.V.R, the Navy, Army, Indian Service, and Auxiliaries being represented.—The proceedings terminated with an exhibition of objects of interest in the pathological laboratory.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 18th, Dr. James Allan, the President, being in the chair.—The President read an address on Recent Work on Infections by Pathogenic Bacteria and Protozoa. A *résumé* was given of Professor D. J. Hamilton's paper in the University of Aberdeen Quatercentenary Studies in Pathology on the Intestinal Canal as a Source of Infection. In this paper Professor Hamilton showed that chorea paralytica of the sheep was caused by a tetanus-like bacillus the habitat of which was the intestine; that the disease occurred during the spring months; that the cause of the seasonal prevalence was found in the state of the blood which during the susceptible season was favourable to the growth of the bacillus and at other times of the year intensely bacteriolytic to the organism. Professor Hamilton thought that the seasonal prevalence of some infectious diseases of man might be explained on a similar pathology. The President then noted the work done by Rogers and Patton on kala-azar and gave an account of the recent researches on the etiology of plague and then of the discoveries of the Liverpool School of Tropical Medicine in the treatment of trypanosome infection, the recognition of two phases in the life-history of the parasite, and the discovery of appropriate drugs, atoxyl for the first phase and mercury for the second phase, and the extension of this treatment to sleeping sickness, the last stage in the infection by trypanosoma Gambiense. A review of recent literature on syphilis seemed to show that there might be two phases in the life-history of the spirochæta pallida and that these phases required treatment by two

different drugs, atoxyl and mercury. The President then suggested the advisability of further investigation as to the possibility of bugs, ticks, fleas, flies, and pediculi being the carriers of diseases in this country and the necessity for determined efforts to be made to discover the causes of whooping-cough, measles, and scarlet fever.—Dr. S. G. Scott read a paper on the X Ray Treatment of Leukæmia.—Mr. J. Stewart read notes of three cases of Disease in the Pelvis Obstructing Labour. The first case was one of enlarged sacral promontory with hydramnios; the child had been dead for some days. The second case was one of obscure tumour of the pelvis and great omentum; labour was induced at theseventh month. The third case was one of solid fibroid of the ovary advancing in front of the head; the tumour was replaced in the abdomen and the patient delivered, ovariotomy being performed at the end of the sixth week.—Mr. R. Lawford Knaggs showed a case of Leontiasis Ossea in a girl, aged 13 years.—Dr. A. L. Whitehead showed a case after operation for the relief of Extensive Symblepharon, the lower eyelid being almost completely adherent to the eyeball before the operation. A large flap of conjunctiva had been transplanted after the eyelid had been dissected off the globe, and at a later period a plastic operation had been performed on the eyelid for the cure of entropion caused by cicatricial contraction.—Dr. E. F. Trevelyan related a case of Congenital Syphilis of the Fauces, the patient being a girl who was aged 15 years. He also exhibited a specimen of Cerebral Softening from a girl, aged 14 years, who was the subject of advanced febrile pulmonary tuberculosis. The left middle cerebral artery was occluded and there was a dark-red patch of commencing softening in the middle third of the lenticulate nucleus. Death occurred 29 hours after the onset of a partial hemiplegia and aphasia.—Dr. T. Churton showed a man with Intention Tremor of the Trunk and Limbs after a fall on the vertex with probable *contrecoup* of the mid-brain.—Dr. T. W. Griffith showed a case of Pseudo-bulbar Palsy and a case of Congenital Heart Disease probably complicated by acquired mitral disease.—Mr. J. G. E. Colby exhibited a case of Tumour of the Naso-pharynx.—Mr. A. S. F. Grünbaum showed the Thyroid from a case of Myxœdema.—Mr. H. Littlewood showed a patient in whom a Calculus had been removed from the Left Branch of a Double Common Duct.—Mr. J. F. Dobson showed a case of Hydrocephalus in which the internal carotid of one side was ligatured a fortnight previously with already some benefit.—Dr. G. W. Watson showed Pontine Hæmorrhage in a boy, aged 17 years.—Dr. W. H. Maxwell Telling exhibited a Heart showing marked Pouching of the Pars Membranacea Septi.—Specimens and cases were also shown by the President, Dr. S. M. Hebblethwaite, Dr. J. B. Hellier, Mr. O. C. Gruner, and Mr. W. Thompson.

LIVERPOOL MEDICAL INSTITUTION.—The inaugural meeting of this society was held on Oct. 10th, Mr. F. T. Paul, the President, being in the chair.—The President delivered an address on Abdominal Surgery.—On the proposal of Mr. Edgar A. Browne, seconded by Mr. Rushton Parker, the President was accorded a hearty vote of thanks.

Reviews and Notices of Books.

Text-book of Diseases of Women. By J. CLARENCE WEBSTER, M.D. Edin., F.R.C.P. Edin., F.R.S. Edin., Professor of Gynæcology and Obstetrics in Rush Medical College, Chicago. With 372 text-illustrations and 10 plates. London and Philadelphia: W. B. Saunders Company. 1907. Pp. 712. Price 30*s.* net.

IT would be a matter for much congratulation if some of that school of gynæcologists whose motto, as Dr. Webster truly says in his preface, is Michelet's dogma—*Le bassin c'est la femme*—and whose remedial measures are limited to different forms of mechanical procedure could be induced to read this work and to assimilate some of the excellent teaching which it contains. To quote the author, "too strong a protest cannot be urged against the concentration of attention on the local pelvic condition without any regard to wider physical and psychical relationships." With a due appreciation of these important facts Dr. Webster has written this work. It contains a large amount of sound teaching based on a wide clinical experience and in many instances on scientific personal investigations. If we do not agree with all the author's opinions we must at least admit that he states the facts clearly and does not fail to give due weight even to those which are opposed to the conclusion to which he comes.

The old view that a good surgeon must be a good anatomist is still true and applies equally to the gynæcologist as to the pure surgeon. Dr. Webster therefore quite rightly has devoted a considerable part of this work to an especially good description of the anatomy of the pelvic organs. This section is rendered the more interesting by the addition of short notes dealing with the comparative anatomy of the various structures described. It extends to some 100 pages and contains a large number of very good illustrations. It might be urged that such an account is to be found in any good book on anatomy but this is far from being the case, as in even the best text-books of anatomy the female pelvic organs receive but scant attention, and the many special anatomical points relating to such matters as uterine displacements and operations on the pelvic viscera are not alluded to at all.

After a chapter devoted to puberty and menstruation the question of the relation of micro-organisms to the various diseases of the genital tract is considered and then the important subject of neuroses in relation to pelvic disease in women is dealt with. The sections on case-taking, physical examination, and minor therapeutic measures are good. After various experiments the author has adopted the use of unpurified clove oil for the disinfection of his hands. After they have been scrubbed for five minutes in soap and water alcohol is applied for one minute to remove any remaining moisture and then the clove oil is rubbed into the skin for four or five minutes and finally washed off with alcohol. The hands are then rubbed with sterilised talc powder and covered with dry rubber gloves which have been boiled for 15 minutes. For the closure of the abdominal wound the use of catgut sutures for the peritoneum followed by the introduction of gutta-percha silk or silkworm-gut sutures passed through all the layers except the peritoneum is recommended. The fascia in front of the recti is then approximated with some interrupted formalin catgut sutures and the skin is brought together with horse hair. Dr. Webster does not favour the frequent performance of anterior or posterior colpotomy; he considers that most of the operations which may be carried out either by the vagina or by the abdomen are best performed by the abdominal route and he habitually employs this method. In this view we quite agree: the abdominal route in the great majority of instances lends itself to better surgical practice and less risk to the patient. The advantages to be gained by opening pelvic abscesses by the vagina, however, are pointed out fully and in the treatment of patients acutely ill this method is recommended. We are surprised to find that the practice of draining a pelvic abscess such as a pyosalpinx through the rectum is advised where a small opening into the gut has already formed but which is too small to allow of free escape of the contents. Surely the better treatment in such a case is to open the abscess freely by the vagina when the opening into the bowel usually will close quickly.

The author's views on the development of decidual tissue in the tubes in cases of tubal gestation are well known, and so, too, is his theory that the ovum will only begin to develop on some part of the genital tract derived from the Müllerian ducts. It might be thought that the recent demonstration of the possibility of the presence of an ovarian pregnancy would necessitate a modification of this view. The ingenious argument, however, is put forward that in such cases, and a very interesting specimen of ovarian pregnancy is figured and described, the imbedding and growth of a fertilised ovum in the ovary are

due to the presence in that organ of small localised areas of decidual cells. It is well known that a portion of the ovarian fimbria actually may be imbedded in the substance of the ovary and localised collections of decidua-like cells have been described on the surface of the ovary and on the peritoneum in pregnant women. In a case of ovarian pregnancy, then, the author concludes that the imbedding of the ovum has taken place in such an area of tissue of Müllerian origin.

There are many other points of interest to which we might call attention but we desire to refer the reader to the book itself. It is a most excellent manual, well written, and one which will be of great service to the student and the general practitioner, while the specialist may learn much from its perusal. The illustrations are very good but the index is not as full as it might be.

Gout: Its Pathology, Forms, Diagnosis, and Treatment. By ARTHUR P. LUFF, M.D., B Sc. Lond., F.R.C.P. Lond., Physician to St. Mary's Hospital. Third edition. London, Paris, New York, and Melbourne: Cassell and Company, Limited. 1907. Pp. 290. Price 10*s.* 6*d.*

THIS work was originally founded on the Goulstonian lectures on the Chemistry and Pathology of Gout, delivered by the author before the Royal College of Physicians of London in 1897. In the present edition the scope of the book has been considerably extended and a large portion of it has been rewritten. The more recent views as to the pathology and causation of gout are fully discussed. The remarks on uric acid are well worthy of attention. As Dr. Luff points out, not only in the medical world has an unmerited importance been attached to uric acid as a factor in the causation of disease but unfortunately among a considerable section of the public there has arisen a fetishism of uric acid which has been fostered by the proprietors of the various quack remedies that are so persistently advertised as being capable of dissolving or removing uric acid from the system. We agree with the author that it should now be clearly recognised that uric acid possesses no toxic properties worth speaking of. The arthritic manifestations of gout are dependent upon much more general and larger conditions than a mere excess of uric acid in the blood. The deposition of sodium biurate is merely the sign of the disease, not the essence of it. The symptoms of the disease must then be caused by some other constituent of the blood. It has been demonstrated that in gout there is no increase in any of the normal constituents of the blood which would account for the manifestation of the disease. The suggestion has therefore arisen that it must be due to one of those bodies, such as the toxins, which are known to be present in many diseases but which cannot be separated in analyses. The author discusses in a lucid and comprehensive manner the various arguments that have been brought forward in support of this theory by Woods-Hutchinson, Trautner, and others. Dr. Luff considers that the view that a bacterial toxin is the primary cause of gout is probably correct. He reminds his readers of the well-known fact that adequate removal of the contents of the intestine at the commencement of the gouty attack always effects rapid diminution of the symptoms. Moreover, the classic remedies for gout have only two things in common: one, that they relieve symptoms, and the other that they check intestinal putrefaction, or diminish the absorption of its products, or promote their elimination from the system.

The various forms of irregular gout and the clinical features of gout in its acute, subacute, and chronic forms are much more fully dealt with than in the previous editions. A chapter has been added on the Differential Diagnosis of the Various Chronic Diseases of the Joints. The practitioner frequently experiences considerable difficulty in arriving at a conclusion as to the exact nature of such conditions. A perusal of this chapter will be of considerable help to him. The three diseases that cause most confusion are gout, rheumatoid arthritis, and rheumatism. The points which may be relied upon in reference to differential diagnosis are carefully detailed, although all uncertainty as to the identity of the malady in certain instances cannot be excluded. The portion of the work devoted to a consideration of the treatment of gout and of gouty conditions is worthy of careful study and a large amount of information can be gleaned from the numerous hints and directions therein contained.

We can congratulate the author on the success of his labours in bringing out a new edition of this book and we heartily recommend the work to our readers.

A Text-book upon the Pathogenic Bacteria for Students of Medicine and Physicians. By JOSEPH MCFARLAND, M.D. Fifth edition, thoroughly revised. London and Philadelphia: W. B. Saunders Company. 1906. Pp. 647. Price 15*s.* net.

WE recently reviewed the fourth edition of this admirable text-book and we are not at all surprised to find that already a fifth edition has been called for. The developments of pathology are so large and the industry of workers, whether clinicians or more especially engaged in the laboratory, is so great that the line between what is theoretical and what is ascertained is shifted almost hourly. Professor McFarland tells us in the preface to the fifth edition that during the last two years much new matter has been added to his book and much has been eliminated that he no longer considered valuable or authoritative, while we are glad to see that the chapters upon infection and immunity have been entirely rewritten. Not that this section of the book in previous editions was not well done, for we have already stated our opinion that he had dealt with a difficult subject clearly and judicially, but the space which should be occupied for consideration of rival hypotheses has altered and the author has recognised this in his new arrangement of the matter. His account is necessarily extremely condensed, inasmuch as he summarises, or rather takes note of, the work of from 90 to 100 original experimenters in just 50 pages, while copious footnotes indicate to the reader where the original papers are to be found and show how much study has gone to the construction of the chapter. In dealing with Ehrlich's "side-chain" theory Professor McFarland gives the fullest reference to the original articles of the author and his associates, in some places making Ehrlich speak for himself by the insertion of quotations from the Croonian lectures delivered before the Royal Society of London in 1900. Throughout the necessary developments of the work Professor McFarland has kept his eye steadily upon his title; he writes upon pathogenic bacteria and not upon the whole scope of parasitology, aiming only at describing such bacteria as can be proved to be pathogenic by the lesions or toxins which they engender. Within the limits which he has laid down for himself we consider that he conveys all the essential facts of the subject while opening to the student the literary sources from which these facts have been gleaned, and these are the objects with which he set out.

Surgical Pathology and Morbid Anatomy. By A. A. BOWLBY, C.M.G., F.R.C.S. Eng., Surgeon to His Majesty's Household, Surgeon to St. Bartholomew's Hospital. Fifth edition. Edited with the assistance of Dr. F. W. ANDREWES, Lecturer on Pathology at St. Bartholomew's Hospital. London: J. and A. Churchill. 1907. Pp. 632. Price 10*s.* 6*d.*

Mr. Bowlby's work on surgical pathology and morbid anatomy is assuming the position of a classic, for the first edition appeared just 20 years ago, and from the date of its original issue the work has been in demand.

The third edition, which appeared in 1895, recognised the fact that the science of bacteriology could be treated at almost any length in a work upon pathology, and to this edition the late Dr. Kanthack contributed a great deal of work on various pathogenic bacteria as well as re-writing the section on micro-organisms in their relation to pathological processes. The fourth and fifth editions have appeared under the editorial revision of Dr. F. W. Andrewes who has contributed to the later of them chapters on sepsis and on micro-organisms in their relation to surgical pathology and tubercle, while the author has rewritten several sections of the work in the light of more recent knowledge but without altering the character or general scope of the manual. The descriptions of pathological conditions are accurate and concise, but the brevity has not been secured, as too often occurs, at the expense of clearness, the descriptions being sufficiently full for any student's requirements. The simple classification of tumours adopted by Mr. Bowlby and Dr. Andrewes is practically the same as that of Ziegler, the embryological scheme being objected to as incorrect, because the normal grouping of the tissues into those which cover the surfaces, those which line the surfaces, and those which lie between the other two does not tally with the epiblast, the hypoblast, and the mesoblast, for representatives of each can be traced to all the three primary germinal layers. "Tumours," says Mr. Bowlby, "present such an infinite variety of detail and transitional forms are so common that they cannot be forced into an artificial scheme of classification." We agree very heartily with this view and also believe that students will be safe at the hands of examiners in classifying tumours simply as (1) connective tissue tumours, simple and sarcomatous; (2) epithelial and endothelial tumours, innocent and carcinomatous; and (3) teratomata. The whole work has been brought up to date and, as we have said before in noticing previous editions, may be regarded as a trustworthy guide to surgical pathology.

LIBRARY TABLE.

Bilharziosis. By FRANK COLE MADDEN, M.D. Melb., F.R.C.S. Eng. London: Cassell and Co., Limited. 1907. Pp. 78. Price 3*s.* 6*d.* net.—In the monograph under review Dr. Madden has supplied to the medical profession a valuable *résumé* of the present state of our knowledge regarding bilharziosis; the reader will find not only the results of the experience of others but also those of the author who, as professor of surgery in the School of Medicine at Cairo, has enjoyed, and as the work before us shows has not neglected the fruits of such enjoyment, exceptional opportunities for studying the disease in question. The monograph opens with a lucid description of the life-history of the parasite. The possible modes of infection are pointed out—namely, first, by the mouth through the drinking water. This, inasmuch as the bilharzia is killed by a watery solution (1 in 1000) of hydrochloric acid, was shown by Professor Looss to be practically impossible, as the secretion of the stomach contains a stronger solution of the acid. This investigator accordingly holds that the worm enters the system by penetrating the skin, and some weighty arguments are brought forward to support this view. The pathological changes produced by the bilharzia are next described. These include the well-known "sandy patches," the papillomata, the fibrosis, and the renal changes, which latter include a special variety of interstitial nephritis due to the parasite. Passing from the pathological changes the author next details the facts in connexion with the organism as it affects the urinary system, the intestinal tract, the female generative organs, and the skin and the subcutaneous tissues. The section on bilharziosis of the urinary system is very complete, the clinical picture drawn leaving nothing to be desired. As regards the treatment of the affection in the bladder, the author recommends the administration of male fern and washing out the bladder in the earliest stages. As the disease progresses and cystitis sets in buchu and hyoscyamus are held to be the most appropriate drugs. Subsequently to this stage the medical treatment is entirely symptomatic. Last of all, the advisability of drainage of the bladder comes into consideration. Calculus in the bladder when present must always be treated by lithotrity unless the case demands drainage or the pain be so severe as to necessitate all action of the bladder being placed in abeyance. Bilharziosis of the intestinal tract is next fully gone into. The author here is in favour in certain cases of an exploratory laparotomy and enterotomy, a good effect from these operations having followed where there were complicating bilharzial tumours. The relationship of bilharzial disease to cancer of the bladder is also considered. We note that in the treatment of the affection no mention has been made of that by methylene blue advocated by Lelean. The cases instanced by that writer seemed to show the good effect of this drug. The whole work is illustrated by some excellent plates and it is worthy of the place which it will doubtless occupy—namely, that of a standard authoritative treatise on this serious disease.

Tumours of the Cerebrum: their Focal Diagnosis and Surgical Treatment. Essays by Five Authors. Philadelphia: Edward Pennock and Co.—The table of contents of this compilation well shows its scope: 1. The Focal Diagnosis of Operable Tumours of the Cerebrum, by Charles K. Mills, M.D. 2. Remarks upon the Surgical Aspects of Operable Tumours of the Cerebrum, by Charles H. Frazier, M.D. 3. Cerebral Decompression, by William G. Spiller, M.D., and Charles H. Frazier, M.D. 4. The Ocular Symptoms of Tumour of the Cerebrum, by George E. de Schweinitz, M.D. 5. Conjugate Deviation of the Eyes and Head and Disorders of the Associated Ocular Movements, by Theodore H. Weisenburg, M.D. 6. The Significance of Jacksonian Epilepsy in Focal Diagnosis, with some Discussion of the Site and Nature of the Lesions and Disorders causing this Form of Spasm, by Charles K. Mills, M.D. 7. The Motor Area of the Human Cerebrum, its Position and Subdivisions, with some Discussion of the Surgery of this Area, by Charles K. Mills, M.D., and Charles H. Frazier, M.D. Most of the essays have been read before the meetings of learned societies. The first four and the last one have already appeared in the University of Pennsylvania Medical Bulletin, all the authors being professors in that university. It was a happy thought to bind up in one volume these learned and well-written papers.

The Laws of Health. By DAVID N. NABARRO, M.D., B.Sc. Lond., D.P.H., Assistant Professor of Pathology and Bacteriology at University College, London, &c. Third impression. London: Edward Arnold. Pp. 184. Price 1*s.* 6*d.*—The necessity for providing teaching in the subject of hygiene in our elementary schools is now generally recognised, and the need has consequently arisen for a suitable teacher's manual setting forth the rudiments of the laws of health in a simple manner, so as readily to be "understanded of the people." Dr. Nabarro's little book seems admirably adapted for this purpose. It is arranged in a series of chapters, each of which deals with a separate system of the body—bones, muscles, digestive organs, and so forth. At the beginning of each chapter there is given a simple account of the anatomy and physiology of the system with which it deals, and then the principles of conservation of health, so far as this system is concerned, are set forth. At the end of the book are a series of summaries of the chapters giving skeleton outlines of their contents. We can cordially recommend this little work to all who have to do with the teaching of children. The advice contained is clear, complete, and sensible. Here

and there we may come across points at which we are inclined to cavil, as at the statement that the tongue is "joined to the back of the mouth," or with the use of "sweetbread" as a popular equivalent for the pancreas; used of the human organ the word conveys an unpleasantly cannibal suggestion. But on the whole the author is distinctly to be congratulated on his book, for it is often harder to write a good elementary book for beginners than a more advanced treatise for those who already understand something of the subject.

Ventilation, Heating, and Lighting. By WILLIAM H. MAXWELL, M.I.C.E. London: The Sanitary Publishing Company, Limited. 1907. Pp. 141. Price 3*s.* net.—Mr. W. H. Maxwell, who is borough and waterworks engineer to the Tunbridge Wells corporation, has written a useful little handbook from a very practical standpoint. The notes from which the work was prepared were made by himself in the course of his business and have been since revised, amplified, and illustrated to form a manual for sanitary engineers, architects, surveyors, and candidates for professional examinations. There is not much in the book that a candidate for a diploma in public health might not be expected to know and as the information is conveyed in a readable and succinct fashion we have pleasure in commending it to the notice of our readers.

The Russian Peasant. By HOWARD P. KENNARD, M.D. Durh. London: T. Werner Laurie. 1907. Pp. 302. Price 6*s.* net.—Dr. Kennard has written a thoroughly interesting little book upon a subject with which he is fully conversant—the life of the Russian peasant. We wish that he had not been in some places so determined to bring us under the spell of his story as to have recourse to fine writing, while we think that others who are as familiar as himself with the problems arising out of the religious and bureaucratic difficulties in the Empire of the Czar will not endorse all his views, but he has designed to be forcible both in sentiment and language and perhaps he has taken the readiest way to impress an audience. The *feldscher*, of course, comes in for unmeasured abuse and no doubt he is often a sadly ignorant and mischievous fellow, but the conditions in Russia are not the same as they are in England and if it were not for the *feldscher* many of the peasants would receive no medical attention at all. Russia is probably the only country in Europe where the principle of a subordinate class of medical practitioner is admitted, and the *feldscher* is as a rule but an orderly who has seen practice in a military infirmary. Still when the general conditions of poverty and of isolation by long distances, things which Dr. Kennard describes with a pictorial pen, are considered, it is impossible not to see that there are many arguments in favour of *feldscherism*. In an admirable *résumé* of the history of Russian medicine written for us by Dr F. G. Clemow at the time when the Twelfth International Congress of Medicine was being held in Moscow[1] the conclusion is come to that *feldscherism* would persist for some time in a country peculiarly calling for such ministration. And despite Dr. Kennard's examples of the evil following upon their practice, we think that their services are valuable. The *feldschers* are not irregular practitioners; they are quarter-qualified medical men. They were not designed to be left in sole charge but only to work under the supervision of a district medical officer; where too much is left to them tragedies may occur, but regarded as trained male nurses instructed up to a point and disciplined on military lines they are a useful class. We recommend Dr. Kennard's interesting work to all our readers; if we have indicated that his opinions want a little critical watching there is no doubt about his enthusiasm or his familiarity with much of his theme.

[1] THE LANCET, August 7th, 1897, p. 343.

X Ray Apparatus and their Management. By K. SCHALL. Bristol: John Wright. 1907. Pp. 36.—This most useful and instructive pamphlet has been compiled by the author with the greatest care. It is full of accurate information and is written in a very clear and concise manner. There is a pleasing absence of redundant material and the general arrangement is such that the veriest tyro may easily understand. The advantages of the different sources of energy, the essential details of the construction of the various forms of apparatus, and the methods of using them are given very clearly and yet briefly. Diagrams are employed to make the more difficult points easy of understanding and some excellent illustrations are given of spark discharges. Especially attention may be drawn to the reproductions of radiograms of the thorax and pelvis which are among the best we have seen. The pamphlet, which is not a catalogue or advertisement of any particular form of apparatus, will be sent gratis to any medical man who applies for it.

JOURNALS AND MAGAZINES.

The Scottish Medical and Surgical Journal.—In the October number of this magazine, which contains much information of an educational nature, Dr. Byrom Bramwell and Professor Robert Muir record a peculiar condition met with in the voluntary muscles in cases of sprue. There were wasting of the muscle fibres and great proliferation of the nuclei of the sarcolemma; the cells of the latter appeared to be acting as phagocytes and carrying off the products of degeneration of the fibres. The condition was suggestive of the action of some toxin. The paper is illustrated with photomicrographs, some of them in colour. Dr. D. Barty King continues his study of muco-membranous colitis and discusses the treatment to be adopted in these cases and Dr. A. Dingwall Fordyce contributes a third instalment of his paper on digestion and feeding in infants.

The Dublin Journal of Medical Science.—An interesting article by Professor A. H. White on the Opsonic Index and the Therapeutic Inoculation of Bacterial Vaccines appears in the September issue of this journal. The results of his experience are, on the whole, very favourable to the use of tuberculin in tuberculous cases, the injections being carefully controlled by examination of the opsonic index of the blood, though he admits that in some instances no good was effected by the treatment. The report of the Rotunda Hospital by Mr. E. Hastings Tweedy, Dr. Arthur N. Holmes and Dr. R. J. Rowlette is continued, the present instalment being largely pathological in character. Dr. R. B. Bryan gives an account of the history of our knowledge of cerebro-spinal meningitis and of recent investigation on the subject; he notes especially the work of Houston and Rankin on the opsonic index in this disease which affords a valuable means of diagnosis.

The Bristol Medico-Chirurgical Journal.—In the September number Dr. Carey Coombs writes on Rheumatic Carditis in Childhood, emphasising the importance of the lesions occurring in the myocardium. Dr. J. Michell Clarke narrates his experience of antithyroid serum and of x rays in the treatment of Graves's disease; the serum was apparently disappointing, while more experience is required as to the value of radio-therapeutics which seemed in one case to produce permanent improvement. Dr. Walter C. Swayne writes on Cerebral Lesions in Pregnancy and Parturition; and Mr. C. Percival Crouch suggests a new mode of treatment for functional aphonia by educating the patient to grunt or to squeak, according to her ability, rather than employing the usual measures of galvanising the larynx or making repeated examinations with the laryngoscope.

The Birmingham Medical Review.—A series of post-graduate lectures are published in the August number of this review. Dr. C. J. Lewis deals with the bacteriological

diagnosis of diphtheria and rightly points out that a laboratory report is not by itself sufficient evidence of the presence or absence of the disease. Mr. R. F. C. Leith discusses the present position and value of the Widal reaction in enteric fever and concludes that it gives trustworthy results in 95 per cent. of cases. Dr. James Miller describes the method of testing the opsonic index and concludes that the position in therapeutics of the inoculation of bacterial vaccines is not yet decided.

The Biochemical Journal. Edited by BENJAMIN MOORE, M.A., D.Sc., and EDWARD WHITLEY, M.A. Vol. II., No. 10, Sept. 26th, 1907. Johnston Laboratories, Liverpool.—This part contains two articles. 1. The Action of Methylene-blue upon Cotton Fibre, by J. O. W. Barrett and E. S. Edie. The authors summarising their observations state that the staining of cotton fibre by methylene-blue in watery solution must be viewed as a mixed process of chemical combination and adsorption, the former predominating. By the term adsorption the authors mean the condensation of a dissolved substance upon a free surface. 2. A Contribution to the Chemistry and Physiological Action of the Humic Acids, by R. A. Robertson, M.A., James C. Irvine, Ph.D., D.Sc., and Mildred E. Dobson, M.A., B.Sc., with two plates. The authors show that natural humic acid contains more combined nitrogen and less methoxyl than the artificial forms. The form of humic acid obtained from cane sugar differs greatly from the natural humic acid. Humic and saccharohumic acid and their potassium salts are utilisable by penicillium as sources of organic carbon and nitrogen. This part completes the second volume of the journal and contains the title-page and table of contents.

New Inventions.

A SETON KNIFE-NEEDLE.

THE revival, but in an antiseptic and revised form, of the old-time seton, on account of the excellent results lately obtained by it in certain chronic nerve and other cases that have defied all other therapeutic and rational methods of treatment, has led me to devise a particularly simple method for its insertion. The instrument depicted opposite, which I have got Messrs. Arnold and Sons of Smithfield to make for me and which I have termed a "knife-needle" on account of its possessing the combined qualities of both knife and needle, renders it possible now to perform this little operation in from two to three seconds. It is merely necessary to take a fold of skin between the finger and thumb of one hand and with the other to pass the knife-needle, threaded with tape, through the base of the fold, drawing the tape after it. I may here mention it is best to use a sterilised piece of tape about 20 inches long, the long end of which should be bunched up into a pocket made of boric lint and the piece that has lain in the wound for the previous 24 hours should be cut off from the short end. This is far superior to the old method of pulling the same piece of tape daily from side to side. The instrument consists of a stem, four inches long, with a double-edged blade at one end and an eye, large enough to take a half-inch-broad tape, at the other. The instrument is so constructed that when a point one-eighth of an inch along the stem from the blade end is reached all the work has been done—that is to say, the greatest width and thickness of the instrument have been reached and the remaining part of the stem and the eye, together with the two thicknesses of the tape, should pass easily through the incisions without any frictional pulling.

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ASYLUM REPORTS.

Joint Counties Asylum, Carmarthen (Annual Report for 1906).—On Jan. 1st, 1906, there were 660 patients (345 males and 315 females, including 17 males and 27 females of the private class) in this institution. During the year 118 (62 males and 56 females) were admitted; of these 23 were over 60 years of age. The discharges were as follows: "recovered," 35 patients (21 males and 14 females); "relieved," eight patients (seven males and one female); and only one male was discharged as not improved. There were 38 deaths during the year (16 males and 22 females), and of these as many as 12 died from pulmonary and general tuberculosis. The acting superintendent, Mr. W. Gibbon, reports that at the beginning of this year (1907) there were 20 tuberculous patients undergoing open-air treatment in the institution. He also reports that the new infectious hospital is nearing completion. The Commissioners in Lunacy in the account of their annual inspection of the institution on July 20th, 1906, begin their report by stating that "we much regret to find at our visit to-day to this asylum that none of the important matters mentioned at previous visits as requiring attention have been dealt with owing to the continuance of the dispute between the several local authorities in union. This dispute has been going on for years, and from what we can gather there does not seem to be any early prospect of a settlement. In the meantime the interest of the asylum and of the patients suffers to a considerable extent. We may point, as instances of this, the absence of any proper system of the disposal of the sewage; the non-provision of alternative exits in many parts, notably at Job's Well and Ward 7 on both sides and the female hospital, and the inadequacy of laundry accommodation necessitating the washing and drying of clothes in wards. This condition of things is not creditable to the authorities to whom is intrusted the duty of providing for the care and welfare of the insane of the counties in union." The chairman of the committee reports that Dr. E. Goodall, the medical superintendent, resigned his appointment on July 25th last after filling the post for over 12 years with success and ability, he having been appointed the medical superintendent of the new Cardiff City Asylum. We notice that Mr. John Richards has been appointed to fill the vacancy.

Kesteven County Asylum (Annual Report for 1906.)—The number of patients on the books of this asylum on Dec. 31st, 1906, was 371 (212 males and 159 females). There were 58 admissions during the year (27 males and 31 females), and of these 15 males and 18 females belonged to the county, and one male and four females were of the private class. Dr. J. A. Ewan, the medical superintendent, states that hereditary predisposition was found to exist in 45 per cent. of the cases admitted and 17 per cent. had suffered from a previous attack of insanity, and in only three cases was alcohol given as an exciting cause. The admission-rate is the smallest for the past decade, though the discharges and deaths have remained about normal. Eight males and nine females were discharged, 13 of whom had "recovered," three were "relieved," and one was transferred to another asylum. The death-rate was slightly higher than that of the previous year owing to an epidemic of influenza and its sequelæ which affected many old people. Of the 28 patients who died during the year 13 were over 70 years of age. The committee has under consideration the desirability of building further attendants' cottages, as it feels that this is the best way of retaining the services of the first-class married attendants. The weekly rate for the unions of the county remains at 10*s.* 6*d.* The farm and garden account shows a profit balance of £241.

UNIVERSITY OF OXFORD.—The Romanes lecture will be delivered by the Right Hon. Lord Curzon of Kedleston, D.C.L., F.R.S., All Souls' College, Chancellor of the University, in the Sheldonian Theatre, on Saturday, Nov. 2nd, at 2.30 P.M. The subject of the lecture will be "Frontiers." Upon the nomination of Professor Dreyer the board of managers of the Philip Walker studentship in pathology has unanimously elected to the studentship James Sholto Cameron Douglas, B.M., Christ Church.—Norman Glover, B.A., Trinity College, has been elected to a senior entrance scholarship in science at St. Bartholomew's Hospital.—Victor T. Ellwood, of Merchant Taylors' School, has been elected to the Theodore Williams medical scholarship at Pembroke College.

THE LANCET.

LONDON: SATURDAY, OCTOBER 26, 1907.

Unrest in the Public Health Service.

Two curious and apparently antagonistic movements are manifesting themselves amongst sanitary authorities at the present moment and although neither is as yet widespread each is a straw which may indicate a coming breeze. The first phenomenon is a tendency on the part of certain important sanitary authorities to sever connexion with their medical officer of health and in each instance the hand which holds the knife is hidden beneath the cloak of economy and retrenchment. Anomalous as it may seem two of these "sanitary" authorities preside over the destinies and healthiness of well-known and much-frequented "health resorts" which, in a sense, may be regarded as national assets. One of these places, Southend-on-Sea, caters during the summer months for thousands upon thousands of London's East-enders seeking health, sunshine, and enjoyment but finding, sometimes in the past, the very antithesis of what they sought in the shape of enteric fever. This health resort has in former times held an unenviable notoriety for two things: the one enteric fever and the other the frequency with which it changed its medical officer of health. Owing largely to the efforts of the present health officer the prevalence of enteric fever has been markedly reduced and visitors to this town have been much less liable to contract this disease or to send it to their friends inclosed in oyster or cockle shells than heretofore. Having thus lost its notoriety in this direction Southend is determined not to lose it in the other and recently endeavoured, by no means gracefully, to induce its medical officer of health to tender his resignation by reducing his salary by £100 and by appointing him for one year only. Dr. J. T. C. NASH, the medical officer, declined to continue his services under the new conditions sought to be imposed upon him, but he acted with great consideration towards the council and, notwithstanding the very humiliating position in which he was placed, he consented to remain in office for three months at his former salary in order to avoid a veritable fiasco for the health-resort which he has served so well.

The council employed the interval by endeavouring to procure another medical officer of health, but thanks to the loyalty of Dr. NASH'S colleagues in the public health service the advertisements remained practically unanswered. The council therefore was on the horns of a dilemma. Either it must hand over the care of one of London's most accessible health-resorts, with all its potentialities for engendering disease, to an untried man or it must ask Dr. NASH to remain. The latter horn of the dilemma was selected and the council is now impaled thereon. Instead of admitting the grave error which it has committed and appointing the medical officer of health in the usual fashion it proposes to appoint him for an additional nine months only and to petition the Local Government Board to sanction the appointment. The central health authority has now an opportunity, which we trust it will take, of expressing its public disapproval of the action of the Southend town council by refusing to sanction any part payment in connexion with a temporary appointment of this nature. It is an absurd anomaly that medical officers of health should be appointed for limited terms only; and were this anomaly put an end to many difficulties in connexion with their appointment and duties would disappear. As we pointed out last week, Dr. MACNAMARA has practically pledged himself to take up the cause of the security of tenure of medical officers of health and we trust that he will induce Mr. JOHN BURNS to infuse a wholesome tone into this Southend farce.

But this brings us to the other movement to which we have referred above—i.e., the proposal to form a union of sanitary authorities with a view to promote uniformity of policy upon important questions affecting the public health and to concentrate and to coördinate action for the promotion of measures of sanitary reform. As we have already pointed out,[1] we regard this movement as being on the right lines and as calculated to aid in the furtherance of public health measures both outside and inside the Houses of Parliament. We may hope, too, that it may prove useful in raising the standard of local government to a level which will at once put an end to unwholesome reactions such as are being witnessed at Cheltenham and Southend if only by means of a protest from this "Unicn" against the practices in question. But the general usefulness of an organisation such as this depends upon its being able to present a united front in matters concerning which legislation is contemplated. Very much, in fact almost everything, depends upon the reasonableness of the immediate executive. If the moving spirits manifest extreme and uncompromising tendencies which are out of proportion and which but a small number of the authorities will be inclined to support chaos and failures at the outset are certain. We imagine, for instance, that any proposal to give a general application of the tuberculin test to all cattle throughout the country, together with the slaughter and destruction, without compensation, of all reacting animals, and this while admitting foreign meat and milk from sources where the cattle are not thus controlled, would be to court failure at the very beginning. With reservations of this nature we welcome the movement as we feel sure that properly handled it should carry considerable weight with Ministers such as Mr. JOHN BURNS who may find it difficult to steer through the Cabinet measures of which he may himself approve but concerning which there is no popular support. It is regrettable, for example, that the Public Health Act of 1907 should not have embodied more provisions than those which have already been the subject of local enactments. There are many obvious and pressing reforms which could have been carried with

[1] THE LANCET, May 25th (p. 1445 and August 24th (p. 542), 1907.

a little more backbone and it is this very vertebrate state which a union of sanitary authorities might bring about. In order that this action may be as efficacious as practicable it is desirable that the sanitary authorities who form the "Union" should exercise their corporate influences upon aspirants for Parliamentary honours and that such candidates should satisfy the corporations, entirely apart from all party politics, of their intention to promote and to support sanitary measures. It would seem from the remarks made recently by Dr. MACNAMARA that we may soon expect legislation somewhat on the lines laid down in a report by the Parliamentary Committee upon Rural Housing and as this report was clearly drawn up without any very accurate knowledge of the machinery of local government the "Union," if formed, might at once set to work to reduce to order the chaos which at present obtains as regards the report and might urge such modifications as it deems desirable.

Polymastia.

IN all probability the earliest representation in the arts of the condition of polymastia is to be seen in the old statues of DIANA of the Ephesians. In the National Museum at Naples there is a statue of the goddess representing her as a woman with multiple mammæ, wearing a mural crown, with the lower part of her body sheathed like a mummy, and bearing the figures of many animals. The presence of the many breasts no doubt is intended to indicate her special relationship to the fruitfulness of nature and more especially to the productiveness of animals. It is unlikely that they represent any special interest on her part in maternity in the general sense, since with their marriage her favoured care of women almost ceased, and such an idea would have been opposed to the feeling entertained by the Greeks towards their virgin goddess ARTEMIS. We do not know whether the early Grecian artists were acquainted with the condition of polymastia in the human female as we know it, but it is, indeed, more probable that they derived their ideas from animals. Of recent years this anomaly has attracted a good deal of attention and the literature dealing with it is very copious. The articles by Dr. TEIZO IWAI recently published in our columns[1] show that it is not an unusual condition amongst the Japanese and that when it occurs it exhibits practically the same characters in that people as in Western races. Supernumerary mammæ are met with more commonly in women than in men and this holds good also amongst the Japanese in whom the rate of its occurrence is 1·6 per cent. amongst males and 5·19 per cent. amongst females. Curiously enough, in the cases reported by Dr. IWAI, unlike those recorded by most other observers, the supernumerary gland was situated most commonly above, rather than below, the normal breasts. Thus, in 511 of his cases of polymastia in 86 per cent. he found the accessory glands were placed above and in only 9 per cent. below. As regards the side of the body on which they are most commonly placed, his results agree with those of other writers. In 51 per cent. they were situated on the left side and in 48 per cent. on the right side. These accessory glands may be met with on almost any portion of the anterior or posterior surface of the trunk. They have been seen also on the arms, the thigh, the cheek, and, most extraordinary position of all, on the vulva, as in the case reported by E. HARTUNG in which the gland was placed on the internal surface of the left labium majus. Microscopic examination of this tumour showed the structure of an acinous gland divided into lobes by connective tissue septa.

An interesting illustration is given in Dr. IWAI'S paper of a patient of Dr. K. SATO in whom there was a supernumerary gland in the right axilla and another under the skin of the left upper arm. This latter position is extremely interesting when we recall the fact that in the broad-nosed lemur, *hapalemur griseus*, the normal mammary glands are situated on the inner surface of the upper arm. The occurrence of an accessory gland in the middle line of the body is very uncommon, especially below the umbilicus, but such cases have been recorded. Dr. IWAI himself reports a case in a man in whom the gland was placed some nine centimetres below the xiphoid cartilage on the linea alba; and in a case recorded by P. F. PERCY a woman had three supernumerary glands two of which were placed below the normal glands and the third in the middle line of the body five fingers' breadth above the umbilicus. In an old engraving by PHILLIPE GALL dated 1563 there is an allegorical representation of Nature as a woman with three supernumerary mammæ, the third placed centrally, which might well serve as a correct drawing of PERCY'S case recorded some 250 years later. The representation of Nature or Abundance as a woman with multiple mammæ occurs frequently in old pictures and statues and a well-known example is the picture by RUBENS entitled "The Triumph of Religion," in which the figure of Nature is painted as a woman with four breasts. It is uncommon to find more than three accessory glands present, although NEUGEBAUER has recorded a case in which there were apparently eight, six above and two below the normally situated breasts, but, as BALLANTYNE points out, it is possible that some of these, at any rate, are accessory nipples only. The degree of development of the supernumerary organ may vary from that of a well-developed gland secreting milk with a well-formed nipple and areola, to a mere mass of connective tissue containing a few ill-developed acini and without any structures representing ducts.

In an endeavour to find an answer to the interesting question as to whether there is any relationship between the occurrence of polymastia in women and multiparity Dr. IWAI has collected many interesting cases of this kind in women who had been the subjects of multiple pregnancies. Not only does he consider that there is some definite relationship between this condition and multiple pregnancies but he also holds that women the subjects of polymastia are likely to bear a number of children above the average. It is obvious that to prove any such contingent relationship a large number of cases would have to be recorded with due regard to the corrections to be made for "probable errors" in order to obtain statistical results of scientific importance. This the author of these papers does not appear to have done and therefore although his results are very suggestive and tend to confirm the opinions held by others on this matter they cannot be accepted as final. The popular belief

[1] THE LANCET, Sept. 14th (p. 753) and 21st (p. 818) and Oct. 5th (p. 963), 1907.

that multiple mammæ are likely to be accompanied by excessive fertility is illustrated by the very old Welsh expression by which a woman who had borne children to two husbands was called "The Three Breasted." At the close of the fifth or early in the sixth century amongst the colonists in Brittany was one BRYCHAN or FRAGAN, from Cornwall, whose wife GWEN had been married previously and who was the mother of Saint CADVAN by her first husband. The original meaning of the name "Three Breasted" as applied to her was lost sight of in course of time and finally the fable became prevalent that she really had three breasts and suckled her younger children at them simultaneously. At the present day we believe that there are statues in several places in Brittany representing her in this guise. Although the question as to whether polymastia is associated with excessive fertility, as, no doubt, it is in animals, is one of great interest, yet a problem of much greater moment is that of the teratogenesis of this anomaly. Three views have been put forward by various writers as to the real nature of polymastia—namely, that it is an example of atavism, or that it is an instance of dichotomy of a single gland, or lastly, that it is merely a spontaneous variation. As BALLANTYNE suggests, the key to the problem may be found in some recent embryological researches. The observations of OSCAR SCHULTZE and H. SCHMIDT have shown that there is present in the mammalian embryo a raised line of epithelium in the abdominal and thoracic regions which is termed the milk stream. Along this ridge are found the rudiments of the normal mammæ and in human embryos of the second month of development there are also isolated masses of epithelial cells to be seen representing the earliest stages in the development of supernumerary mammæ, which in normal conditions atrophy and disappear. They are placed along the line of the epigastric artery just in those positions in which supernumerary mammæ are generally met with and it is no doubt owing to the persistence of these bodies that their development is due. This view does not afford any explanation of their occurrence in other parts of the body but it is well known that the mammary glands are in reality only modified sebaceous glands and accessory glands in these other positions may rightly be regarded as modified giant sebaceous glands. Nor is such a theory incompatible with the possibility of heredity playing a part in their production. In 555 cases Dr. IWAI found 31 cases of hereditary transmission and five cases where brothers and sisters were alike affected. One of the most striking instances of this is the case recorded by V. L. TERRIGI in which the anomaly appeared in four successive generations, the number increasing from three accessory glands in the second generation to five in the fourth. In his last paper on this interesting subject Dr. IWAI endeavours to establish some relationship between the occurrence of polymastia and tuberculosis, holding that the usual explanation of the numerous instances recorded amongst such patients—namely, the necessity for frequent examinations of the chest in tuberculous patients and therefore the more frequent recognition of the presence of such glands—is not sufficient to explain the extreme frequency with which such an anomaly occurs amongst the tuberculous. Further evidence is, however, required before his conclusions on this point can be accepted as definitely proved.

Death Certification.

FOURTEEN years ago the Select Committee appointed by the House of Commons to investigate the question of death certification presented its report and made certain recommendations, many of which, though desirable, have been ignored. That the existing mode of procedure has defects is very generally admitted and from time to time these have public attention drawn to them in the coroners' courts and elsewhere. An example of the injudicious manner in which certificates of death may be given was afforded in a case of sudden death upon which an inquest was recently held by Mr. WALTER SCHRÖDER, the deputy coroner for St. Pancras, at the coroner's court in that district. On Sept. 24th Mr. BONAVENTURA CASTELLOTE, a dental surgeon practising in London, was found unconscious on one of the platforms of Euston Station with a cigar lying near him. Dr. EDWIN HOLLINGS was at once called but on arrival found that death had occurred. Inquiries were made and a certificate was given by Mr. LEWIS EVANS stating in the usual terms that he had attended the deceased during his last illness, that he had last seen him alive a month before, and that to the best of his knowledge and belief the cause of death was "primary, heart failure; secondary, syncope." The coroner having been informed by the police of the circumstances of the death and having instituted inquiries decided to hold an inquest which was opened on Sept. 28th. Mr. EVANS then stated in his evidence that he had last attended the deceased about 15 months previously and that although he had met him some four or five weeks before his death he had not seen him professionally or treated him at this time. He further stated that he had not examined him and that he simply judged of the cause of death from his knowledge of the habits of the deceased, more especially that of excessive smoking, of the possible consequences of which he had warned him. He had come to the conclusion that death was due to nicotine poisoning but on being asked why he had made no mention of this in the certificate stated that he was asked or advised not to do so by the coroner's officer—a statement which that officer denied. In view of the nature of this evidence Mr. SCHRÖDER decided to adjourn the inquest in order to enable a post-mortem examination to be made. At the adjourned inquiry which was held on Oct. 5th the results of this examination made by Dr. JOHN THOMPSON, the police divisional surgeon, in conjunction with Dr. EDWIN HOLLINGS and Dr. G. B. HOLLINGS, were found to be as follows: the heart weighed 15½ ounces, the left side was thickened, and the right side was thin, flabby, and covered with fat. The aortic and mitral valves were atheromatous and the coronary arteries showed a similar pathological change. There were also some bronchitis and a small abscess in the right kidney. The cause of death appeared to be syncope resulting from fatty heart and disease of the blood-vessels. That Mr. EVANS'S conjecture in this case proved to be correct does not condone his unwisdom in giving a certificate. No medical practitioner is justified in construing the words "attended during his last illness" in any other sense than that of attendance in a professional capacity and mere guesswork from a knowledge of the general habits during life of a person deceased is a hazardous method of procedure in cases of sudden death. The

question of the relation of nicotine poisoning to the conditions found is one about which little need be said, since excessive smoking, although a potent cause of functional derangements of the heart, is not regarded as a marked factor in producing degenerative processes. A verdict of death from natural causes was returned, the members of the jury adding two riders, one dealing with the allegation made by Mr. EVANS in regard to the coroner's officer, whom they acquitted of blame, and another in which they say, "We consider that the words 'attended during his last illness' used in the form of certificate issued by the Registrar-General should be defined in the instructions to medical practitioners who have to certify the cause of death and that 'attended' should mean attendance within eight days of death and on at least two occasions during the last illness and in relation to the cause certified. We suggest that recommendation No. 3 of the Select Committee on Death Certification should be carried out." This recommendation runs as follows: "That a medical practitioner in attendance should be required before giving a certificate of death to personally inspect the body, but if, on the ground of distance or for other sufficient reason, he is unable to make this inspection himself, he should obtain and attach to the certificate of the cause of death a certificate signed by two persons, neighbours of the deceased, verifying the fact of death."

The certification of the cause of death in cases of sudden death or of unexpectedly rapid death is a very important matter and one for which it is highly desirable that there should be recognised rules of procedure, not only in the interests of the public, who must be thoroughly safeguarded, but also in that of the practitioner who is frequently face to face with a situation requiring both judgment and tact to deal with satisfactorily. It is but natural that the relatives of a person dying suddenly from the effects of disease should wish to be spared the distress and pain likely to be caused by an unnecessary inquest, and where the practitioner has attended the patient for some malady which it is known may give rise to a sudden or rapidly fatal issue there should be no difficulty when the circumstances of the death are known to the practitioner and he has been in recent attendance. It is quite clear from the form of death certificate now in use that direct attendance during the last illness is required and, indeed, there is a note appended to the page of instructions at the beginning of the ordinary book of certificates supplied to the effect that "No medical practitioner is justified in giving a medical certificate of the cause of death unless he has been personally in attendance upon the deceased during the last illness." The difficulty which the practitioner has to contend with is to determine how long an interval between his last professional visit to the patient and the time of death constitutes attendance in the last illness. It is, of course, possible in the case of a chronic malady that this may be a matter of several days or even weeks and yet there may be no necessity for an inquest, for the cause of death may be quite obvious. The jury in its rider suggests that the recommendation of the Select Committee on Death Registration already referred to should be put into effect—viz., that attendance should be defined as personal attendance upon at least two occasions, one of which should be within eight days of death. Some such recommendation if adopted would be welcomed by our profession as it would define in precise terms what is now vague and would relieve the practitioner of a grave responsibility and its attendant anxiety. It may be objected that so short an interval as eight days before death would entail unnecessary investigations but after all if the coroner were satisfied from his inquiries that death was due to the disease for which the practitioner had attended the deceased at an interval longer than this but little difficulty or delay would be entailed and there would be less likelihood of mistakes.

Another recommendation of the Select Committee to which attention may be drawn is that medical practitioners should be required to send certificates of death to the registrar instead of handing them to the representatives of the deceased. These certificates are of great importance as records and if they are to be accurate they must of necessity contain information which may be distressing to the relatives and which it is unnecessary that they should themselves have to deliver to the registrar, as where the primary cause of death is alcoholism or syphilis. The question of payment for these certificates is one with which we are not at present concerned, although it is somewhat of an anomaly that responsible work of this kind done for the State should be absolutely unpaid. The point we desire to emphasise is that in filling up a death certificate for a case of sudden death which he has only seen *in articulo mortis* or in which he has not been recently in attendance the practitioner undertakes a responsibility which should not be lightly assumed, even though undertaken to relieve the relatives from the distress of an inquest.

Annotations.

"Ne quid nimis."

THE BRISTOL ROYAL INFIRMARY AND THE PLURALITY OF HOSPITAL APPOINTMENTS.

IN THE LANCET of Oct. 12th we made our readers acquainted with the facts of the dispute which has recently arisen between the medical staff and the committee of the Bristol Royal Infirmary on the subject of the holding of other hospital appointments by members of the former body. The situation has now developed into something like an *impasse* owing to the united action of the members of the staff in defending what they believe to be the best interests of their professional successors and of the infirmary, for it is to be especially noted that their own position is in no way prejudiced by the recent decision of the governors, the resolution not being retrospective. The staff have issued a memorial to the governors calling their attention to the situation preceding the meeting on Sept. 24th and to the resolution then passed which greatly limits the freedom of future members of the staff in taking other public professional appointments and which we have already published. They further explain that they are prepared to accept a less drastic rule than that which now awaits confirmation and that they have been advised by a largely attended gathering of the Bath and Bristol branch of the British Medical Association "to take the strongest possible measures in resisting this or any rule which, in effect, embodies the substance of this rule." They point out that

although the president of the hospital in his speech on Sept. 24th instanced several hospitals as having similar rules, yet the chief hospitals in London, Edinburgh, and many other towns place no such restrictions on their honorary staff, and that in no other hospital in the United Kingdom is there a rule preventing members of the full staff from holding "any other professional public appointment other than Professorship or Lectureship ....," the words of the said rule. Finally, they acquaint the governors with their decision in these words, which are signed by 20 members out of the 22 constituting the staff. "We shall therefore feel bound to tender our resignation to the governors unless this rule is withdrawn; and we further wish to make it clear that we cannot hold office under any similar rule that we consider opposed to the best interests of our infirmary and our successors." The secretary of the hospital has issued to the governors a copy of the president's speech at the meeting of Sept. 24th, which is largely concerned with negotiations between himself and an individual member of the staff previously to the meeting. The governors have now to decide if the rule shall be carried and we await the issue with interest; should they accept the resignation of their staff *en bloc* they may find it harder to replace them under their new conditions than they imagine.

THE MEDICAL SERVICE FOR THE PROPOSED TERRITORIAL FORCE.

WE commented last week upon the proposals which Mr. Haldane has recently laid before his constituents at North Berwick for the formation of an adequate medical service for his projected Territorial Force. The medical profession in Scotland during the course of last week was taken into counsel on this important matter by Sir Alfred H. Keogh, Director-General of the Army Medical Service, who met representative gatherings of Scottish medical men at Edinburgh, Glasgow, and Aberdeen, and laid his scheme before them with a cordial invitation to discuss it and to suggest any emendations which might occur to them. Sir Alfred Keogh will continue to hold his professional councils in important English centres and invitations have been issued to medical men in the Manchester and Leeds district to meet him, with the object of exchanging views, on Oct. 25th and 26th respectively, whilst he will visit Oxford and possibly other towns during the course of November. We are able to print in this issue a summary of the scheme (page 1180), although we do not propose to deal fully with it until it has been placed before our English readers by the Director-General in person but the method of its promulgation has our complete sympathy. Mr. Haldane has taken a wise course in the matter, for, as his public utterances prove, he is prepared to give to Sir Alfred Keogh his full support in the development of a national medical service which, it is hoped, will be completely adequate as a branch of home defence. The action of the Director-General is no less commendable, for he has had the good sense to recognise that it is useless to dictate the conditions to the civil medical profession on which they shall be asked to undertake military duties, as the past history of volunteering has proved, and he is sparing no effort to get thoroughly well acquainted with the views of those who will form the *personnel* of the new force. From the cordial reception with which he met in Scotland it is reasonable to hope that his English audiences will give him an equal measure of support and sympathy and it is much to be desired that his audiences will not be unduly backward in expressing their views of his proposals. We may here reproduce Mr. Haldane's words at Berwick on the matter. "Put shortly, the position which the Army Council seek to attain in regard to medical organisation and training is one in which the general arrangements year by year shall be made by the members of the medical profession in each territorial area after conferring with one another, the results of the conference being submitted to the Director-General of the Army Medical Service, by whom it is proposed the training shall be administered."

THE SALE OF FOOD: SOME RECENT CONVICTIONS.

NO more satisfactory result ever rewarded the prosecution of one of those persons who in their reckless greed endanger the public health than that which followed recently in the case of Edward Hughes, a street hawker of milk. He was carrying on his trade—that of selling milk from a hand cart—in Earl-street, Westminster, when Inspector M'Nair, employed by the Westminster city council, took a sample from his churn, which contained about a gallon, and finding it extremely filthy seized the contents of the churn and of the hand can which were afterwards destroyed by order of the magistrate at the Westminster police-court. The evidence given there by Dr. F. J. Allan, medical officer of health of the City of Westminster, was to the effect that there were a large number of smuts floating on the surface of the milk and an accumulation of filth at the bottom of the can, the fluid itself having a most offensive odour. The microscope showed among the foreign matter of a recognisable description seeds, bits of straw and of tomato skin, grit, hairs, some of which were human and some not, and particles of human skin; the kind of refuse, in short, which might be due to exposure of the cans or of the milk in a dirty stable or in the street. The defendant was only able to suggest the foggy state of the atmosphere on the morning of the seizure of the milk in order to account for its condition and Mr. Horace Smith inflicted the extreme penalty allowed by the law—namely, six months' imprisonment with hard labour. This is none too much if we consider the insidious nature of the wrong done to the poor and particularly to their children by traders of this class and the difficulty of tracing the source of the evil when illness has followed upon such conduct as his. It is almost unnecessary, moreover, to point out that although the defendant said something about a vendor at Walworth from whom he had purchased, the guilt was beyond question his, for the horrible condition of the fluid which he was selling as milk was patent to the eye and nose of the ordinary observer and the cans were articles for the state of which he alone was responsible. His fate should be a warning to others in his position and should be noted by them. Among other prosecutions of milk-sellers may be mentioned that of Messrs. Jenkins and Sons of Finsbury, who in the same week in which Hughes was sent to prison were fined £20 by Mr. Cluer at Old-street police-court for selling milk adulterated with 28 per cent. of added water. The defence which they put forward was that the liquid from which a sample was taken by the inspector was sold as milk and water at 3*d*. a quart and that the can carried in the street was so marked. They do not appear to have suggested a reason for anyone buying milk and water in a city where the latter is so plentiful as in London, or to have explained in what proportions "milk and water" would be supposed by a would-be purchaser to have been combined. A fine of £10 with £2 2*s*. costs, imposed at the instance of the Holborn borough council upon Edward Wright, a butcher, for exposing for sale 60 pounds of meat in an advanced state of decomposition concludes a list of recent convictions which at any rate show that the local authorities and their inspectors are fully alive to their duties and that the magistrates are prepared to support them when cases deserving exemplary punishment are fully proved before them. The effect of a sentence of imprisonment as an example is,

however, no doubt considerably greater than that produced by even a heavy fine, and imprisonment can hardly be regarded as an unduly severe punishment for an offence against the safety of human life committed for the sake of gain, especially if the offender has already received and disregarded the lighter form of penalty.

THE BACTERIOLOGY OF "LOATHSOME BED-STUFFING."

A RECENT bacteriological report on specimens of rags and samples of flock used for stuffing bed mattresses, cushions, and so forth has reached us and affords singularly unpleasant reading. In untreated rags as purchased the number of bacteria living and capable of developing in suitable nutrient media varied from upwards of 10,000,000,000 per gramme to over 9,000,000,000. The number of bacillus coli and allied organisms of excremental origin was at least 10,000,000 per gramme, while the bacillus enteritidis sporogenes was found in the same material. The report further shows that by the adoption of an efficient pressure steam steriliser this flock can be reduced to a state of bacteriological purity. These results completely confirm the expressions of opinion contained in an editorial article published in THE LANCET of Sept. 7th last. The Government, through the President of the Local Government Board, has declared that "the point has been noted for consideration when a suitable opportunity offers." Meantime the distribution of pathogenic entities proceeds in this way uninterrupted and on a wholesale scale and many a mattress containing this unsterilised flock must literally be a hotbed of disease.

TRIGGER FINGER.

THE *Journal of the American Medical Association* of Oct. 5th contains an important paper by Dr. R. E. Weir on the rare condition known as trigger or snap finger, which was described so long ago as 1850 by Notta of Lisieux. It nearly always manifests itself during flexion, particularly during flexion sufficiently great to allow the finger to rest or press on the palm. Then the finger can be extended only by a considerable muscular effort or by the aid of the other hand. If the finger is extended by the extensor muscles it springs back suddenly, usually with more or less pain, but when arrested or replaced by the other hand much less discomfort is felt. In some cases there is no pain. Pain is sometimes felt in the flexion that produces the hitching, though less than in the subsequent extension. In a few cases a slight click or rubbing noise has been observed. Sometimes the inconvenience is so great as to interfere with manual labour. Trigger finger occurs more frequently in women than in men in the proportion of 58 to 40. It has been observed at all ages; two of the cases were congenital and in one the subject was a child, aged 11 months, and in another a child, aged two and a quarter years. In a thesis on the subject published in 1900 Robel analysed 154 cases and found that the right hand was affected in 99 and the left in 55. The fingers affected were as follows: right hand: thumb, 28; middle finger, 34; ring finger, 21; index, 11; and little finger, five; left hand: thumb, 13; middle finger, 13; ring finger, 23; index, one; and little finger, five. It has been noticed that trigger finger is more frequent among those engaged in sewing embroidery, knitting, and similar occupations. As to the pathology many theories have been brought forward. Notta ascribed it to a thickening of the ends of the digital synovial sheaths which invest the tendons. Steinthal and Poirier thought that the fault lay in the lateral ligaments of the metacarpo-phalangeal and interphalangeal joints. But, as shown by Adams, this might produce a permanent condition such as hammer finger but not trigger finger. Roser thought that hitching occurred at the point of passage of the flexor profundus through the split tendon of the flexor sublimis. The pathology was not settled until necropsies were made and operations were performed for the relief of the condition. Dr. Weir has collected 42 cases (including his own case) in which an operation was performed. In 11 the fault was in the tendon; in 15 in the tendon sheath; in nine it was due to trauma; in three it was due to a neoplasm; and in four nothing was found. In the first three classes—i.e., in 35 out of the 42 cases—the cause was in the tendon or its sheath. In all the traumatic cases except one the obstruction was in the digits proper and in nearly all the others it was situated below the digito-palmar fold. When the obstruction was recognised it was always removeable and its removal was always followed by restoration of function. Even if the cause was not recognised a free incision of the sheath not infrequently proved curative. In four cases the cause of the trigger action was found in the extensors; in all the others it was in the flexors. Careful examination of removed portions of the affected tendon or its sheath has shown, excluding cases of tuberculous deposit and those the result of trauma, a certain amount of circumscribed fibrous hypertrophy, termed by Bergmann "tendonitis callosa circumscripta." In some cases the changes appear to have been the result of previous traumatic hæmorrhages and subsequent degenerative changes. Rheumatism and gout seem to be predisposing causes. Dr. Weir's own case is as follows. For two or three years he had a slight painless trigger action in the left third finger which he thought was due to the pressure of a large seal ring when it caught occasionally on various projections in trunks, bags, and so forth. This at times was followed by tenderness along the proximal digital phalanx and eventually by slight locking of the finger on complete flexion. In the beginning of 1906 the trigger action became more frequent, more severe, and more painful. He had a slight tendency to gout as shown by a little tenderness in the big toe joints and "knobbing" of the right hand. On palpation a small nodule was occasionally observed in two places—at the base of the proximal phalanx where the ring had pressed and on the palm over the head of the metacarpal bone. Under cocaine Dr. Abbe exposed the flexor tendon in the first phalanx but found nothing. He then carried the incision upwards until he reached the first palmar fold and exposed the tendon sheath which was somewhat rosy and a little thickened. The sheath was incised and at the level of the head of the metacarpal bone was found a pearly nodule attached by a pedicle to the inside of the sheath. This was excised but the locking still continued. Division of the sheath was continued towards the wrist. As this was done the thickening became more marked and the locking diminished until the level of the first palmar fold was reached, when the locking disappeared. Perfect restoration of movement followed.

A FATAL PRESCRIPTION OF ARSENIC AND STRYCHNINE.

THE adage "History repeats itself" is abundantly illustrated in medicine. Cases, however extraordinary, can be paralleled if records be searched with sufficient diligence and the minuteness with which details, often apparently insignificant, are reproduced is as curious as it is instructive. In diagnosis and treatment, too, errors which are remarkable because they are the result of peculiar circumstances which baffle even high skill are repeated again and again. Sometimes mistakes result from ignoring ordinary teaching and are attended with disastrous results which do not prevent their repetition. Some eight years ago in an annotation [1] we drew attention to the fatal consequences of prescribing together liquor strychninæ and liquor arsenicalis. Such a

[1] THE LANCET, Feb. 11th, p. 393, and April 15th, p. 1045, 1899.

combination ought not to be dispensed, although the "Art of Dispensing" states that they are "sometimes prescribed together. The alkali of the latter precipitates the strychnine, so that a shake-the-bottle label must be used." As we insisted, the risk is too great to countenance the dispensing of such a mixture. If it is desired to prescribe arsenic and strychnine together the use of liquor arsenici hydrochloricus would obviate all risks of precipitation. But the risk would remain of the dispenser substituting for this preparation liquor arsenicalis, either by mistake or intentionally if he had none of the acid solution. Our remarks were made in connexion with the following case. A practitioner wrote a prescription containing "Liq. As." one ounce, and "Liq. Strychn." five drachms; water to six ounces. The dose was half a teaspoonful. It seems that prescriptions had frequently been made up for him in these terms without ill-effects. However, in the end a patient who took the mixture was seized with fatal convulsions. The result was attributed to the dispenser having used the alkaline liquor arsenicalis instead of the acid liquor arsenici hydrochloricus, so that a sediment of strychnine formed. In the *Edinburgh Medical Journal* for August Professor H. Harvey Littlejohn and Mr. T. W. Drinkwater have reported another case of the same fatal mistake. A mixture containing equal parts of liquor arsenicalis and liquor strychninæ was prescribed for a woman, aged 36 years, who was suffering from pulmonary tuberculosis. Six drops were ordered to be taken three times a day in water. A druggist dispensed the prescription in an ounce bottle, which was taken without ill result. Then a second bottle was taken except a few drops containing a little sediment. At 10 A.M. one day the patient, finding the bottle almost empty, added to it some water, shook it up, and drank it. An hour later she complained of feeling ill and of not being able to walk. She lay down and had a convulsion. Her medical attendant was sent for and found her lying in bed with an anxious expression. She told him what she had taken and said she was afraid that "she had done for herself." The slightest touch caused a convulsive seizure. She died at 12.20 P.M.

THE THREATENED RAILWAY STRIKE AND THE PUBLIC HEALTH.

THE complete disorganisation of railway traffic or its suspension even for a short time is practically certain to affect the public health. A railway system has become a *sine quâ non* of modern existence, not so much because of its facilities for the travelling public as that it is in many instances the only road by which the food-supply is brought to the great towns and cities. Certainly in the case of perishable articles of food the railway is the only means of connecting the source of supply with the centre of demand. To take one example. London would be in great distress if its enormous milk-supply were suddenly cut off. There is no milk production in London to speak of and the bulk of it comes from the country at distances scores of miles away, which would preclude the delivery of milk in a sound condition by any other means. The supply of fish, again, would at least be spasmodic, because although a good deal of the fish is water-borne yet for the steady continuous supply we depend upon the railway. Vast quantities of meat, again, are brought to our great populations by the railway. It can hardly be supposed that this interference with the continuous daily supply of fresh food, which a railway strike is likely enough to cause, can have a favourable influence upon the public health. There is no place in the world which possesses a more excellent, abundant, or cheaper supply of food than London, but this fact, of which the metropolis way well be proud, is largely dependent upon railway efficiency. In the event of this efficiency being seriously lowered high prices would rule the markets and in many instances the poorer classes would be cut off from many kinds of food altogether owing to scarcity and to prohibitive charges. The scarcity of certain foods would lead to an advance in the prices of food in general. The quality of food would be lowered and *a priori* the standard of health is calculated to suffer. This state of things would not be helped by a serious advance in the price of coal which is bound to be another sequence of a suspended railway service. Food supplies the warmth of the body and if this is scanty and no compensation can be gained from the artificial heat of the coal fire very little effort of the imagination is required to picture the distress and loss of health that must follow a famine of food and fuel. It is not within our province to discuss the *pros* and *cons* of the struggle but it may be as well to warn the railway trade unionists of the grave consequences which may follow any ill-considered step of theirs, a step which is calculated not only to affect the health of their fellow-men not engaged in the railway service but which will also react severely upon themselves. Yet when we realise that the suspension of railway traffic would be nothing short of a national disaster affecting the comfort, health, and well-being of the whole community it becomes a serious question as to whether railways should not be a national machine worked under the control of the nation. The consummation of such a scheme, however, would not necessarily ward off discontent or make railway strikes a thing of the past as has just recently been illustrated in Italy.

THE COMPULSORY NOTIFICATION OF TUBERCULOSIS.

IN another column we publish a communication on the compulsory notification of tuberculosis by Dr. Nathan Raw. We have on several occasions pointed out that the infectivity of tuberculosis cannot be compared with that of small-pox, scarlet fever, or any of the "infectious fevers" which fall under the Compulsory Notification Act. We are, therefore, in thorough agreement with Dr. Raw when he maintains that tuberculosis must be considered in a class by itself and any regulations which are applicable to other infectious diseases cannot be applied to its prevention and treatment. Dr. Raw expresses the problem briefly but correctly when he adds: "The disease must be attacked by totally different methods involving not only the highly trained and scientific medical men but also the coöperation of all those interested in sanitary administration and in addition the public and especially those suffering from the disease themselves." In England and Scotland, under improved sanitary conditions, tuberculosis has very markedly decreased, and we deprecate any undue haste in instituting legal measures which, in our opinion, would lead to unnecessary hardships being inflicted on individuals. There is much force in Dr. Raw's argument that the fear of compulsory notification would prevent patients who believed themselves victims of tuberculosis from consulting medical practitioners and the sufferers would probably pass into the hands of the quack and the charlatan. We believe also that many practitioners will endorse Dr. Raw in his opposition to any measures which would compel medical men under force of penalties to carry out regulations involving delicate relations between medical man and patient against their will when the results of such measures are considered by many to be of doubtful utility. With most of the means which Dr. Raw suggests for the prevention of the disease we are heartily in accord. The isolation of advanced cases may present some difficulties but compulsory removal need only apply to those who, in the opinion of the medical officer of health, are not able to be isolated properly and treated at home, or in the case of those patients who persistently disregard the directions given for the prevention of

infection. There is one point in connexion with voluntary notification that Dr. Raw mentions which we think requires further explanation. He considers that notification should be made compulsory in cases of public institutions where patients suffering from the disease come under the notice of the officials. Would he apply this rule to patients attending the out-patient rooms of the hospitals? Here, again, we think a clear distinction should be made between notification of "closed" and "open" cases of tuberculosis. If the medical officer in charge considered that the circumstances of the individual rendered close supervision necessary, then the case should be notified; but it would frequently happen that unnecessary hardship would be placed on individuals who had no tubercle bacilli in the sputum or who clearly appreciated the nature of the disease and who were willing and able to take all necessary precautions. We still maintain, however, that constant and increased attention to hygiene and education of the patient are the strongest measures that can be adopted in the prevention of the disease and we echo Dr. Raw's concluding words: "The final victory over tuberculosis will not be gained by compulsion but by the earnest and steady coöperation of science and perseverance."

THE WORK OF THE PIONEER MOTOR AMBULANCE OF LONDON.

IN the issue of THE LANCET of May 18th last, p. 1373, we fully described the excellent electric motor ambulance which had then been recently installed in the City of London under the control of the City police. On Oct. 17th we had an opportunity of again inspecting it on the occasion of a demonstration of its working given before Mr. Henry Morris, President of the Royal College of Surgeons of England, and other gentlemen interested in ambulance work, the display being under the control of Captain J. Nott Bower, Commissioner of the City police force, who with Mr. Reginald Harrison, the president of the Metropolitan Street Ambulance Association, and Mr. F. Gordon Brown, the City police surgeon, has been largely responsible for the successful institution of the motor system. At the display last week a telephone message was received at the Old Jewry Police Office at 3.3 P.M. that there was an accident in Guildhall yard; the ambulance which is stationed in King Edward-street, next to St. Bartholomew's Hospital, was summoned by telephone and arrived in a few minutes at the Guildhall, where it was met by the inspecting party. A "dummy" patient was provided who was supposed to have a fractured femur and this the constables on duty proceeded to put up in a workman-like and efficient manner. The patient was conveyed to the St. Bartholomew's station in the ambulance which glides so smoothly through the traffic that it has been dubbed "the White Swan," the time from the receipt of the first call at the central police office to the arrival of the patient at the hospital being only 13 minutes. At present there are 52 call-boxes in the City of London operated only by the City police, all of whom have had a first-aid training. The following return shows the number of cases taken to hospital by electric ambulance and hand litters since the establishment of the motor ambulance system on May 13th:—

—	Number of cases.	Average time taken from receipt of call to arrival at hospital.
Electric ambulance ...	442	9½ minutes.
Hand litters	195	21 "

As Captain Nott Bower says in his report, from a police point of view the saving of 11½ minutes for each case is most important. It clears crowds and obstruction from the streets for that period and saves the time of the police for other duties. The contrast to an accident patient between the jolting of a hand litter and the smooth travelling in the ambulance is great and in this way the saving of sufferings to the sick and injured must have been considerable, as has been warmly acknowledged by many of those whom the police have conveyed to St. Bartholomew's Hospital in the electric car. Mr. Anthony A. Bowlby, C.M.G., surgeon to the hospital, has written as follows on the subject: "The patients who have been brought in the new ambulance have been very well looked after by the police. They have evidently been very carefully lifted and moved and have suffered much less pain in transit than if they had been conveyed in any other way. I think the new ambulance is a complete success." And Mr. Ludlam, superintendent of the New York Hospital and superintendent of the ambulance service of New York, writes from that city: "I saw the new motor ambulance at St. Bartholomew's, and was deeply interested in it, and pleased at the enthusiasm and intelligence displayed by the men in charge. The vehicle itself is admirably adapted to the purposes for which it is intended, and is, in some respects, I think, in advance of the type in use in New York. Its record is excellent. I was told it had been in commission for three months without breakdown and without expenditure for repair. This speaks volumes for the excellent construction, and for the intelligent care taken of it. Evidently those in charge of the ambulance are proud of it, and of the fact that they arrive at the scene of accident within a very few minutes after the receipt of the call. The fact that the time from the occurrence of an accident to the delivery of the patient at the hospital is thus reduced to a very few minutes, and that the transportation is made with a minimum of suffering to the patient, should be unanswerable argument in favour of the new system."

A CASE OF POISONING BY POTASSIUM CHLORATE.

A FATAL case of poisoning by potassium chlorate studied in the wards of Professor Klemperer at the Moabit Hospital at Berlin is recorded in the *Allgemeine Medicinische Central-Zeitung* of July 6th by Dr. Hans Hirschfeld, the changes produced in the blood being given in detail and with special care. The influence of the drug upon the red blood corpuscles is well known but in this case some changes were found in the white corpuscles which have not hitherto been observed. The patient was a young woman, aged 19 years, who had taken 20 grammes of potassium chlorate on June 4th. Two days later she was admitted into hospital showing the typical bluish-grey tinge of the skin with slightly icteric conjunctivæ and passing scanty dark-brown urine containing large quantities of methæmoglobin. Venesection was at once performed and a transfusion of defibrinated human blood was carried out, as a result of which the general condition was somewhat improved. In the next few days but very little urine was passed and œdema, vomiting, and signs of cardiac weakness rapidly developed. At the same time, however, the condition of the blood improved and the bluish-grey colouration of the face gave place to great pallor. The treatment adopted included infusion of salt solution, hot-air baths, pilocarpine injections, and administration of oxygen. The patient died on June 13th, having lived nine days after taking the chlorate of potassium. In regard to the result of the examination made of the blood, the most severe changes were observed on the day of admission—i.e., on the third day after the poisoning. A large proportion of the erythrocytes showed a more or less advanced decolourisation of the stroma and the small pigmented bodies containing methæmoglobin first described by Ehrlich, appeared within them. They were observed

either singly or in groups in many erythrocytes, sometimes occupying the centre of the corpuscle and at other times lying near the periphery. It appeared that they sometimes escaped and were found free in the blood plasma. An enumeration of the erythrocytes at this stage is not of any value owing to the fact that many disintegrated cells are likely to be included. Three days later the number of degenerating red cells was much less and on the next day they had entirely disappeared. The number of erythrocytes was then found to be 1,500,000 per cubic millimetre and nucleated red blood corpuscles were also observed to be present. As regards the leucocytes, when the case was first seen Dr. Hirschfeld counted 30,000 per cubic millimetre, while four days later their number had fallen to 15,000. The most noticeable increase was found to be in the polymorphonuclear leucocytes but myelocytes were also seen. In regard to the changes observed in the structure of the leucocytes, as a result of poisoning by chlorate of potassium, only very few observations are on record. Krönig observed a fibrillation of the protoplasm of the lymphocytes and Jacob stated that a large number of the leucocytes appeared to be swollen. The former of these observations Dr. Hirschfeld was not able to confirm and the latter he explains as due to pressure in the method of preparation as he did not find the swollen appearance in fresh specimens. Some of the leucocytes may contain the remains of degenerated erythrocytes. Other cells show variation in their neutrophile granulations which may be in clumps in some parts, leaving gaps in others. A very noticeable form was also a neutrophile cell with several spherical nuclei, a form usually observed in pus, especially that due to gonorrhœa. Other cells were seen which were identical with the pseudo-leucocytes of Ehrlich and were due to breaking up of the polymorphonuclear cells. Although known to occur in exudates they have only once before been seen in blood, viz., in a case of hæmorrhagic small-pox studied by Ehrlich. The interest of this case lies in the great care with which the changes in the blood were observed and in the evidence it affords that potassium chlorate affects the white corpuscles injuriously as well as the red.

ELECTION TO THE SENATE OF THE UNIVERSITY OF LONDON.

OWING to Dr. Lauriston E. Shaw's retirement from the Senate there is a vacancy which will shortly be filled by a representative elected by the Faculty of Medicine. The date of the election has been fixed for Thursday, Nov. 21st, and already Professor E. H. Starling has issued an address to the electors. The latest date for sending in the names of candidates to the Dean of the Faculty is Nov. 7th. Judging from the great interest taken in the senatorial elections last spring there seems likely to be another keen contest on the present occasion. Until additional candidates are in the field it is impossible to forecast the lines upon which the present election will be fought. Professor Starling makes the two chief points in his programme the greater accessibility of the medical degree and an increase in the period devoted to clinical study. On both these questions Professor Starling should have the warm support of a very large number of the teachers, though no doubt there will be some who will be drawn into the opposite camp by the cry that this is an attempt to lower the standard of the degree. On the vexed subject of the concentration of the earlier studies Professor Starling is prepared to support what seems to be a reasonable compromise affording at once an opportunity for those schools which desire to relinquish these subjects to do so, while bringing no pressure, direct or indirect, upon others to participate in the movement. This proposal, which is likely to commend itself as equitable to the majority of teachers, would enable the Senate to extricate itself from the difficult position created by the change of feeling upon this question shown in the Faculty at the last election. By some it may be considered a disadvantage that Professor Starling is not a clinical teacher. It must, however, be recognised that the reorganisations necessary to carry out the immediately pressing reforms in medical education fall within the earlier period of the curriculum of which physiology at present occupies so large a share. Unfortunately the committee work of the Faculty representatives upon the Senate is extremely exacting and it is likely to become increasingly difficult to find physicians and surgeons able to devote the necessary time to these positions.

DEATHS UNDER ANÆSTHETICS AT GENERAL HOSPITALS.

THE report of an inquest upon a death under chloroform which we publish in another column ventilates a question of great importance alike to hospitals and to the general public. The facts of this particular case are briefly these. The patient suffered from exophthalmic goitre and to relieve her urgent symptoms the surgeon in charge of the case decided to perform an operation and to do so in two stages. The first stage, that involving the ligation of the arteries to the thyroid gland, was successfully accomplished, a house surgeon giving chloroform, and no dangerous symptoms appeared. On the day when the second stage of the operation was to have been carried out—the removal of the tumour—another house surgeon, a recently qualified man who had not previously anæsthetised for a case of the kind, undertook the administration of the anæsthetic. The patient, however, died when the incision into the skin was made. There appears to have been some discrepancy in the opinions expressed as to the cause of the death. One view advanced was that the retching and vomiting which occurred caused interference with respiration and death arose from suffocation. Another contention was that the result was due to reflex failure of the heart, while the pathologist who made the necropsy found a persistent thymus and this he regarded as possibly a determining cause of death through syncope. It thus appears that the condition of the patient was recognised as a very grave one and the surgeon who operated was keenly alive to the special danger which the patient ran through taking an anæsthetic. Local analgesia was even thought of but had to be given up owing to the nervous condition of the patient. The question which naturally arose and was strongly insisted upon by the coroner was: Why did not one of the expert anæsthetists attached to the charity attend for the purpose of giving the chloroform instead of a junior house surgeon of admittedly small experience? Authorities were cited which supported the coroner's view that in such grave operations the anæsthetic should be given by the staff anæsthetist, or at least in his presence. The answer to these contentions does not seem to us to be wholly convincing. Naturally surgeons in large operative practice must be, in theory at least, cognizant with anæsthetics. Yet it can hardly be admitted that they can direct the inexperienced anæsthetist or watch him as he applies each fresh supply of the anæsthetic. In theory such a shared responsibility is possible; in practice we doubt whether such supervision can protect the patient from grave dangers. If a serious operation has to be performed the house surgeon does not, we believe, undertake it, even under the guiding advice of his principal. In cases such as the one which we are considering the patient's life was as much in jeopardy from the anæsthetic as from the operation, and if the latter required expert performance, is it too much to say that the conduct of the anæsthetisation should have been undertaken by a staff officer of special experience? It is unfortunately true, as was pointed out at the inquest, that the operations performed at the large hospitals of London

are so numerous that it is difficult to obtain expert help in the conduct of the anæsthetics for all of them. All will concede this but it appears to us equally clear that the difficulty would be met by the appointment of a resident anæsthetist, a man who had acquired more experience than a young house surgeon and who had attended some hundreds of cases with staff anæsthetists and so gained considerable skill and some special knowledge. We should not labour the matter except that we feel that the statement that a surgeon can keep "half an eye" upon the administration of an anæsthetic and can share the responsibility of its administration with the actual chloroformist is at once dangerous and reactionary. It is justly said that junior men must acquire experience in giving anæsthetics but it is surely best not to tax their powers too far, and to restrict their duties to cases which are not of extreme difficulty and do not involve special risks. It is open to those who uphold the opposite view to say that the question is one of opinion and we see that that is the attitude adopted by a witness at the inquest, a witness whose wide knowledge and great reputation must appeal to everyone. In spite, however, of this, we cannot but express a hope that careful consideration of the weighty contentions advanced against such an opinion may modify it and lead those who hold it to refrain from imposing on young and inexperienced shoulders a weight of responsibility which they can hardly bear with impunity.

THE SANATORIUM TREATMENT OF ACTIVE INSANITY BY REST IN BED IN THE OPEN AIR.

AN interesting paper on the above subject was read by Dr. C. C. Easterbrook, the medical superintendent of the Ayr District Asylum, Scotland, at the International Congress of Psychiatry and Neurology held at Amsterdam in September of this year. In the first part of the paper he refers to "the asylum or outdoor exercise treatment of active insanity," which was the form of treatment which he himself employed from 1894–1902 for all those patients whose physical condition did not demand confinement in bed in the asylum hospital. The objection that he found to this method was that although there was often steady improvement in the physical health of the patient there was decided retardation of the mental recovery. During 1902–06 Dr. Easterbrook made it a regular practice to receive all new patients into wards of the hospital type and to prescribe a preliminary course of treatment by rest in bed, which is becoming increasingly the custom in all mental hospitals. He found that although the recovery rate was higher in the "rest" treated patients than in those patients who had been treated by "exercise," yet in the former there was "a retardation of the improvement in the physical condition, general metabolism, and functional activity of the non-nervous organs" which was not to be observed in those treated by exercise in the open air. In order to obtain the benefits which each form of treatment seemed to offer he decided to combine the two methods of "rest cure" and "open-air cure." All newly admitted patients at Ayr Asylum are after examination, unless too weak physically to be moved, placed straightway in the verandahs attached to the reception wards of the hospital, where they remain throughout the day. The severity of the mental symptoms is no contra-indication to this mode of treatment. He states that "there is a rapid subsidence of the active mental and nervous symptoms" usually within three weeks and "the improvement in the sleep is striking and in most cases is distinct within a week." Further, there is a rapid improvement in the physical condition of the patient even to a greater extent than is the case when outdoor exercise has been prescribed. The condition of the skin improves, the appetite recovers, and the increase in body-weight commonly amounts to from five to seven pounds during the first three weeks. The duration of the sanatorium treatment in the case of new patients varies from one to four weeks, which is a considerably shorter period than is usually necessary for those patients who are treated by being confined to bed indoors. Although, as Dr. Easterbrook states, it is too soon to speak of the ultimate therapeutic value of this system it would certainly appear to be an advance in the treatment of the insane. The value of fresh air as a potent prophylactic and curative agent has definitely been proved in certain forms of disease and in the next decade this range may have widened so as to include the treatment of mental disorder.

THE EMPLOYMENT OF CHILDREN AND STREET TRADING BY YOUNG PERSONS.

ON another page we publish the greater part of a series of by-laws recently enacted by the London County Council the better to regulate the employment of children in their homes or elsewhere and in the streets. As will be seen, they are especially directed towards insuring for a child attending school a reasonable number of hours of recreation during each day, limiting his labour on school holidays to eight hours, and forbidding him ever to work before 6 A.M. or after 9 P.M. No child under 11 years may now be employed in any way. With regard to children between 11 and 14 years of age realities and not ideals have to be faced by legislators and any order making the employment of such children illegal would press hardly upon very many struggling families. We trust that the new regulations will be carried out adequately, although the task of inspection will be a difficult one so far as it affects indoor employment. The provisions regarding street employment of children are wisely framed and should be more easy of fulfilment, although the age of a London street arab is often somewhat difficult to determine. Medical men who employ young lads in the capacity of errand boys and the like would do well to read these regulations, lest an alteration in their arrangements should be rendered necessary in consequence of the London County Council's recent action.

THE ANTISEPTIC AND GERMICIDAL PROPERTIES OF SOLUTIONS OF FORMALDEHYDE AND THEIR ACTION UPON TOXINS.

Dr John F. Anderson has recently completed an extensive investigation of the antiseptic and germicidal properties of formaldehyde in aqueous solution.[1] In a review of the literature he shows that previous workers have obtained varying results owing probably to the difficulty experienced in accurately determining the strength of solutions of formaldehyde. It is a volatile, unstable substance and though many methods of analysis have been published they yield varying results. Indeed, no analysis should be accepted without the concordance of figures obtained by at least two distinct methods. Preliminary experiments were made with moulds, stable manure, and hay to determine the restraining influence of formaldehyde on putrefactive changes. In all the experiments formalin, containing 37·2 per cent. of formaldehyde, was employed. It was found that the lowest dilution of formalin in which bacterial growth occurred was 1 to 1000 for moulds, 1 to 5000 for garden earth, and 1 to 4000 for stable manure and hay. Dr. Anderson then made a series of tests to determine the antiseptic action of formalin on pure cultures of bacteria and found that many of the organisms grew in

[1] Bulletin No. 39, Hygienic Laboratory, Public Health and Marine Hospital Service of the United States, 1907, pp. 48.

dilutions as low as 1 to 4000 and that a few were restrained in a dilution of 1 to 6000, but that none grew in a solution stronger than 1 to 3000. The following figures show the dilutions in which growth was restrained:—1 to 3000: staphylococcus pyogenes albus, aureus, and citrus, bacillus typhosus, bacillus coli communis, bacillus pyocyaneus, bacillus subtilis, bacillus prodigiosus, and bacillus enteritidis; 1 to 4000: staphylococcus epidermidis albus, bacillus dysenteriæ (Shiga), and bacillus anthracis; 1 to 5000: bacillus pestis and bacillus diphtheriæ; and 1 to 6000: bacillus mallei, bacillus megaterium, bacillus acidi lactici, bacillus proteus, and vibrio choleræ. The germicidal power of formalin in various strengths was then studied on pure cultures, human fæces, and sputum. The results in the case of pure cultures are given in the following table, the figures representing the time in minutes required to kill the organisms named:—

—	Strength of formalin (containing 37·2 per cent. formaldehyde).			
	1%	2%	3%	5%
Vibrio choleræ	10	—	—	—
Bacillus coli	90	60	30	30
Bacillus diphtheriæ	20	10	—	—
Bacillus mallei	10	—	—	—
Bacillus pyocyaneus	40	10	—	—
Bacillus dysenteriæ	120	60	40	40
Staphylococcus pyogenes albus ...	120	60	30	30
Staphylococcus pyogenes aureus	90	40	20	20
Bacillus typhosus	90	40	20	20

A 10 per cent. solution of formalin killed all the non-spore-bearing organisms tested in less than ten minutes except bacillus dysenteriæ and staphylococcus pyogenes aureus which were killed in from 10 to 20 minutes. As regards the rate of germicidal action, with a 2 per cent. solution the maximum effect was exerted in the first five minutes. With a 3 per cent. solution this immediate effect was still more apparent; thus, in the case of bacillus pyocyaneus the majority of the organisms were killed in the first two minutes. In the case of fæces a 3 per cent. solution destroyed the majority of the non-spore-bearing organisms in the first ten minutes; a few, however, resisted a somewhat longer exposure. The spore-bearing organisms grew up to two hours. With a 5 per cent. solution most of the non-spore-bearing organisms were destroyed in ten minutes and a few resisted for 40 minutes. The spore-bearing organisms resisted as long as 60 minutes. Fæces exposed to a 10 per cent. solution were rendered practically sterile immediately, a few colonies developing in 10 minutes, and the spore-bearing organisms being killed after 40 minutes. A 10 per cent. solution completely deodorises fæces at once but a few minutes' exposure is required in the case of 3 and 5 per cent. solutions. Dr. Anderson concludes that on account of its germicidal and deodorant action formalin is one of the most useful agents for the disinfection of infected human discharges when used in a 10 per cent. solution, allowing an exposure of one hour after thorough mixing. He found that the tubercle bacilli in sputum were killed by an exposure to a 5 per cent. solution of formalin for one hour. Sputum exposed for 15, 30, and 45 minutes respectively still contained live virulent tubercle bacilli. Dr. Anderson then experimented with toxins. He found that a guinea-pig was able to withstand 100 minimal lethal doses of tetanus toxin that had been exposed for six hours to 5 per cent. formalin. 3 per cent. formalin protects against the toxin after 24 hours' exposure. Diphtheria toxin is more susceptible to formalin than tetanus toxin, a 4 per cent. solution after six hours' exposure protecting a guinea-pig against acute death without, however, preventing paralysis. The action of formalin on toxins is an important property in its use as a disinfectant, for not only are the bacteria themselves destroyed but also their soluble products.

THE BED-BUG AS A POSSIBLE CARRIER OF INFECTION.

AN observation of some interest is recorded in the *Allgemeine Wiener Medizinische Zeitung* of Sept. 3rd by Dr. Alfred Kirchenberger and Herr Vala of Görz. There occurs during the summer months in the southern provinces of Austria-Hungary, especially in the Southern Tyrol, Görz, Dalmatia, and Herzegovina, a peculiar endemic gastric catarrh. This malady, to which the names of the dog disease and summer fever have been applied, attacks the great majority of people in these districts other than those native to them and falls with especial stress upon the younger soldiers while in barracks in these parts. There is an incubation period varying from three to five days, followed by a prodromal stage of a few hours characterised by malaise, headache, and constipation. The temperature then rises suddenly to about 40·5° C., the headache becomes more severe, and there is tenderness of the globes of the eyes, with a characteristic injection of the conjunctiva, to which the name of dog disease is due owing to a fancied resemblance to the eye of a dog which it induces. A mild bronchitis supervenes, the tongue becomes thickly furred, the appetite is completely lost, the region of the stomach is markedly tender to palpation, and the constipation persists. Cramps of painful character in the muscles of the calves are common and in one form of the disease similar painful sensations occur widely in the muscles. Epistaxis is frequent and an exanthem occurs which may resemble either urticaria or erythema multiforme. These conditions last from two to four days and then decline by crisis, but convalescence is slow and often protracted to 14 days, while a considerable degree of anæmia may result. The disease appears to confer a lasting immunity to further attacks. It has attracted the attention of the Austrian military medical officers and Professor Pick and Dr. Tanssig have carefully studied its manifestations. The latter was able to establish a connexion between the incidence of the disease in Herzegovina and the bites of certain gnats called "Papadatschi." In the summer months of the present year an outbreak of the disease occurred in Görz among the men of a certain regiment of infantry stationed in barracks at that place. Of 600 men, 121 suffered from typical attacks of the disease; the barracks concerned are old and, in spite of all precautions, much infested by bugs. All other barracks remained free from the disease with the exception of one in which only a few cases occurred. A study by Dr. Kirchenberger and Herr Vala of the distribution of the cases in the various rooms showed that the disease usually spread from the first case in that room to the men in the next beds or to those in the beds directly opposite. This peculiar mode of spread is attributed to the bug passing directly from bed to bed or under the floors which were of such construction as to permit of the bugs passing easily from side to side of the rooms. Although the actual demonstration of the correctness of this view seems hardly complete the observations are highly suggestive and afford a further probable example of the importance of the blood-sucking parasites as agents in the spread of infective diseases.

URBAN AND RURAL BIRTH-RATES IN ENGLAND AND WALES.

THE Registrar-General's annual report for 1905 contains some interesting statistics relating to the birth-rate in large towns and in rural districts, and to its changes during the 30 years 1870–72 to 1900–02. It appears that the annual birth-rate per 1000 of the population (nearly ten millions) in 20 of the largest English towns, which had been 36·7 in

the three years 1870–72, had fallen to 29·8 in the three years 1900–02, showing a decrease of 18·8 per cent. Calculated on 1000 females aged 15–45 years, the birth-rate in these 20 towns during this period of 30 years declined from 143·1 to 111·4, showing a still larger decrease of 22·2 per cent. In 112 entirely rural registration districts with an aggregate population of nearly one and a half millions, the annual birth-rate per 1000 declined from 31·6 in 1870–72 to 26·0 in 1900–02, this decrease in the 30 years being equal to 17·7 per cent. in the rural population, against 18·8 per cent. in the 20 large towns. The rural birth-rate, based on the number of females aged between 15 and 45 years, declined in the 30 years from 158·9 per 1000 in 1870–72 to 120·7 in 1900–02, showing the marked decrease of 24·0 per cent., exceeding the decrease, calculated in this way, in the 20 towns, in which it was equal to 22·2 per cent. This excess in the decrease of the birth-rate in the rural population, calculated on 1000 females aged 15 to 45 years, is probably due in great measure to difference in the age constitution of the married women in the urban and rural areas dealt with in the Registrar-General's report; for it appears that of the married women aged 15 to 45 years in the rural districts, only 54·8 per cent. were under the age of 35 years, while in the large towns the proportion under this age was 60·9 per cent.; moreover, the proportion of young married women has recently decreased more rapidly among the rural than among the urban population. The fact, however, remains that, as shown by these statistics, the fertility of women living in the rural districts was considerably greater (by about 10 per cent.) throughout this period of 30 years than among those living in the large towns. The Registrar-General points out that this comparatively greater fertility in the rural districts does not arise from differences in the relative proportions of married women, as a "similar relation between urban and rural fertility is found to exist when the calculation is based on the proportion of legitimate births to married women of conceptive ages." On the whole, however, perhaps the most remarkable feature of these statistics is the fact that the constant decline in the English birth-rate during the past 30 years has been almost as well marked among our rural as among our urban populations.

CHARGE UNDER THE BIRTHS AND DEATHS REGISTRATION ACT, 1874.

A CASE was concluded at Mortlake petty sessional court recently of some interest to the medical profession, in which a medical man, Mr. H. P. Daniell, was the defendant, the charge against him being that he had refused without reasonable excuse to give certificates of the cause of death with regard to three children, under Section 20 of the Births and Deaths Registration Act, 1874. The hearing was commenced in August when only two magistrates were present who differed, one of them holding that the defendant was in doubt and that he honestly believed the cause of death to be a matter to be inquired into further and one as to which no certificate should be given. The children on whose bodies inquests were afterwards held, in consequence of Mr. Daniell's refusal to certify, were triplets of whom two survived their births for a very short time and one was born dead, the births having been premature. The fact that one of the children was born dead was stated by Mr. Daniell in his evidence on his own behalf but apparently in a document which he gave to a woman who asked for a certificate on behalf of the parents he wrote that the mother had given birth to three live infants who had only survived for one hour. The paper containing this statement was taken to the keeper of the cemetery who properly refused to bury the bodies without a certificate of the cause of death. The coroner's officer asked the defendant about the matter and the exact answer given was in dispute before the magistrates but it was stated that the question of a fee was raised by the defendant and at all events no information was given upon which the coroner could rely in order to decide whether he should hold an inquest or not. The case for the defence was that the delivery being premature the defendant was doubtful or suspicious as to what had caused it and thinking that the coroner might relieve him of responsibility he had given the paper referred to with the intention that it should serve as a guide to that official. It seems clear, however, that in the circumstances described by him the defendant would have been wise in affording the coroner all the information in his power and that he did not do this and also that the evidence of Dr. F. G. Crookshank, who had seen the dead bodies and was a witness called by the prosecution, did not support Mr. Daniell upon the question of the doubtful or suspicious nature of the case. At the second or adjourned hearing of the summonses for failing to certify the magistrates were unanimously against the defendant and fined him £2 with £7 7*s.* costs. A case of this kind suggests arguments both on behalf of the medical man and on the other side. It may be said, on the one hand, that although the Births and Deaths Registration Act directs that "In case of the death of any person who has been attended during his last illness by a registered medical practitioner, that practitioner shall sign and give to some person required by this Act to give information concerning the death a certificate stating to the best of his knowledge and belief the cause of death," it is certainly usual for a practitioner who has not been able to satisfy himself that the death is due to natural causes to decline to give a certificate and to tell the relatives to acquaint the coroner with the circumstances. To this it may be added that whatever information the medical man affords to the coroner is given by him gratuitously and subject to no compulson, and that the fact that friction takes place when such information is demanded as a right is more likely to bring about reform than acquiescence. On the other hand, so far as the particular case before us is concerned the section above quoted only requires a certificate "to the best of" the certifier's "knowledge and belief," and if the medical man who attends a premature birth has any ground for supposing that it was due to any but natural causes it may be looked on as his duty to the public and to his own profession to do his best to facilitate full inquiry into the matter. He may also be wise to remember that if the fact is proved that illegal interference caused the confinement to take place followed by the death of the child it will conduce to his own protection that he should have been instrumental in bringing the matter to light. The obligation of professional secrecy does not require the medical man to expose himself to having the suspicion of a criminal act cast upon him by persons desiring thereby to shield themselves.

THE Department of Public Health of Queensland, in a bulletin dated Sept. 14th, states that no case of plague has occurred in Brisbane since July 26th, but that at Cairns a second case was reported on Sept. 9th, the patient being a girl, aged 14 years, who lived in the same area as the first patient whose case was reported in THE LANCET of Oct. 19th. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on Oct. 18th states that for the week ended Oct. 17th there were 19 cases of plague and 13 deaths from the disease.

THE death is announced, at Halifax, on Oct. 22nd, of Dr. Thomas Michael Dolan, J.P. Dr. Dolan was in his 64th year. On the same date Dr. W. H. Day of Meopham also

died, aged 76. Dr. Day was present at the siege of Sebastopol as assistant surgeon to the Buffs and later was closely associated with the late Sir Spencer Wells.

THE ROYAL ARMY MEDICAL CORPS OF THE TERRITORIAL FORCE.

WE are authorised to publish the following summary of the proposed constitution of the medical service of the Territorial Force.

The Royal Army Medical Corps of the Territorial Force shall consist of officers, non-commissioned officers, and men. The ranks and designations of the officers shall be lieutenant-colonel, major, captain, and lieutenant. The establishment of colonels shall be at least sufficient to enable one to be posted as administrative medical officer to each division. The establishment of lieutenant-colonels can be determined when the number of medical units and other posts in the territorial army has been determined. The rank of lieutenant-colonel shall be attained by promotion into a fixed establishment. The rank of major shall be given after eight and a half years as captain and after having qualified in such manner as shall be hereafter determined. Lieutenants will attain the rank of captain after three and a half years' service, having qualified in such manner as may be hereafter determined. The officers of the Royal Army Medical Corps Territorial Force shall be posted to battalions and medical units, as well as to staffs and to special appointments such as sanitarians. The establishment of medical officers in battalions shall not exceed two, ordinarily not above the rank of major.

The total establishment of officers, non-commissioned officers, and men of the corps will be such as will enable the territorial force on mobilisation to be supplied with the necessary medical *personnel* as for regulars. The number of non-commissioned officers and men will be determined by the number of units provided for and by the number of sanitary posts to be filled, on lines similar to those of war establishments of the regular army.

Training.

The annual training should vary according to the requirements and according to the section (nursing, cooking, clerical, and general duty) to which the *personnel* belong.

As a rule, the *personnel* of the nursing section should be required after the "training on enlistment" to undergo "annual training" in hospitals (civil or military) in nursing duties only; the *personnel* of the cooking section in hospitals, civil or military, or some other suitable institution, and the clerical section in military hospitals only. Officers as well as members of these sections (nursing, cooking, and clerical) appointed to field units should do at least one annual training in three in camp, whilst those allotted to general or stationary hospitals should, as a rule, train in hospital.

In the event of it not being possible or desirable for individuals (officers, non-commissioned officers, or men) or sections allotted to field medical units to train annually in camp the course laid down for hospitals may be carried out in lieu. The general duty section, whether allotted to general or stationary hospitals or field units, should not train in hospital more than once during each period of engagement (four years). All ranks should, so far as possible, be required to pass for promotion under conditions similar in principle to those of the Royal Army Medical Corps, the exception being that the certificate of education and dispensers' examination need not be compulsory.

In order that the training on enlistment and annual can be carried out it is necessary to establish schools in various commands. The number of these schools will depend upon local requirements. As a rule they should be established in connexion with the headquarters of the Companies Royal Army Medical Corps (Volunteers) now existing.

Training of Officers.

Concerning training in general this much may be said, that the officers intended for stationary and general hospitals can (after a little preliminary training, say within the scope of the "p" certificate now given to Volunteers) learn all that is required of them in the military hospitals and in the above-mentioned schools. Attendances at these hospitals and schools for limited and not continuous periods should therefore count as training. Those intended for field units (the class now in the Royal Army Medical Corps Companies of Volunteers) should either—(*a*) go into camp each year or when not for annual camp (*b*) put in certain courses of instruction in their own schools or in selected military institutions

Training of Non-Commissioned Officers and Men.

With regard to the training of the non-commissioned officers and men the corps requires: male nurses, non-commissioned officers and men; clerks, non-commissioned officers and men; cooks, non-commissioned officers and men; and general duty, non-commissioned officers and men.

Male nurses can be trained in military or civil hospitals. Clerks can only be trained in military hospitals. Cooks should receive part of their training in military hospitals.

REPORTS OF THE ROYAL COMMISSION ON HUMAN AND ANIMAL TUBERCULOSIS.[1]

II.[2]

Dr. L. Cobbett's report on the "Pathogenic Effects of Human Viruses" forms the second of the volumes recording the work done by different members of the scientific staff of the Royal Commission at the farms and laboratories at Stanstead. Dr. Cobbett almost from the beginning had charge, under the direction of the Commission, of the experimental work done at the Blythwood farm with viruses of human origin. The principal object of this work was to investigate the pathogenic effects on various species of animals of tubercle bacilli obtained from cases representing so far as possible all the different clinical varieties of tuberculous disease in both adults and children, and especially to find out whether some viruses of human origin were more or less virulent than others for the bovine animal.

In all 63 different viruses were used. Most of the material was obtained at post-mortem examinations, but some of the material, especially that from glands and joints, was obtained from operations on patients. Sputum from pulmonary tuberculosis was employed in four cases, and lesions of the lung in cases of apparently primary pulmonary tuberculosis in ten others. The material in each instance was used to make an emulsion, which was either injected directly into different experimental animals or into guinea-pigs from which cultures were afterwards obtained and utilised for inoculation. Sometimes both methods were employed.

When tuberculous lesions were obtained from experimental animals thus inoculated further tests were made to determine the virulence of the particular "strain" of the virus which had been obtained by using emulsions or cultures derived from those lesions for additional experiments on animals of different species. The means adopted to estimate the number of tubercle bacilli introduced in each inoculation have already been referred to in the previous article of this series. The culture medium employed was solidified serum. The species of animals on which the virulence of the different viruses was tested included the ox, goat, pig, dog, monkey, rabbit, guinea-pig, and rat. Some experiments were also made on the cat, mouse, and fowl, and two each on the chimpanzee and baboon. So far as possible the experiments were arranged in groups with a view to eliminate differences due to the dose, the mode of administration, and the age of the animal. Dr. Cobbett notes that the variation of individual susceptibility in calves was found to be considerable, and to avoid errors due to this source calves were as a rule injected in pairs and in important cases larger numbers were used.

Classification of human viruses.—The result of the injections, taken as a whole, was to differentiate the several viruses obtained from man very sharply into two classes. This division is effected by taking the results of inoculations on the ox species and on the rabbit. In Group I. suitable doses, such as 50 milligrammes of culture, produced rapidly fatal general tuberculosis when injected subcutaneously into the calf, while the same viruses were highly virulent for the rabbit in which they rapidly caused

[1] Volume II. of Appendices to the Second Report of the Commission: "On the Pathogenic Effects of Human Viruses," by Dr. L. Cobbett. In two parts. London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd. Dublin: E. Ponsonby.

[2] No. I. was published in THE LANCET of Sept. 7th, 1907, p. 726.

fatal tuberculosis. In brief, viruses belonging to Group I., as regards virulence to bovine animals and rabbits, behaved essentially in the same way as corresponding viruses obtained from the cases of naturally occurring bovine tuberculosis, the virulence of which was independently studied at the Walpole farm. It will be remembered that the Royal Commission in discussing in its second report the correspondence between the viruses of this "Group I." and those of bovine tuberculosis was also able to indicate a like similarity in the histological and cultural characters of the bacilli concerned, which were of the "dysgonic" type, growing with least luxuriance on glycerine serum and certain other media, and contrasting, as a whole, with the "eugonic" bacilli of Group II.

Viruses of Group II., inoculated into calves in doses such as 50 milligrammes of culture and sometimes in far larger quantities, produced no more than a transient disturbance of health and localised or minimal lesions which soon became retrogressive. They had also a low degree of virulence for the rabbit and very rarely caused progressive or fatal tuberculosis in that animal. "Almost without exception," Dr. Cobbett states, "our strains of tubercle bacilli have fallen into one or other of these classes."

Virulence of human bacilli for the ox species.—Although the production of generalised tuberculosis in the calf and adult bovine animal was characteristic of all the viruses of Group I., Dr. Cobbett emphasises the inability of small doses to effect this result. The dose necessary is larger than can be supposed to be usual in the case of infection of the bovine animal under natural conditions and this circumstance suggests that when bovine animals are exposed to infection under such conditions severe and progressive tuberculosis may only result exceptionally, as a result of some special susceptibility of the animal concerned. With regard to viruses of Group II., Dr. Cobbett found that their failure to cause progressive or fatal tuberculosis in the calf was maintained, even when a dose as great as 10,000,000,000 bacilli in a tissue emulsion, or as much as three grammes of culture, was employed for subcutaneous inoculation. Intravenous injection of suitable doses produced a fatal result in consequence of extensive consolidation of the lungs caused by the confluence of little infiltrated and œdematous areas which arose round each collection of tubercle bacilli lodged there, but if these were not so numerous as to leave insufficient lung tissue to support life the tubercles underwent retrogression and the animals recovered. After subcutaneous injection the bacilli of Group II., like those of Group I., became widely and rapidly distributed all over the body; the difference between the two groups is the incapability of the former to cause progressive disease. The viruses of this Group II. did not appreciably differ in virulence among themselves. A few of the calves inoculated developed a large number of tuberculous lesions in their glands or organs, but these were not progressive, and other animals injected with the same viruses developed only minimal lesions.

Virulence for rabbits.—The usual practice in this case was intraperitoneal injection. When viruses of Group I. were used a moderate dose of culture (1 or 0·1 milligramme) produced tuberculosis, which was invariably fatal within a few weeks and sometimes in less than a fortnight; even in smaller doses (down to a millionth of a milligramme) a fatal result was obtained, though after a longer interval. With viruses of Group II. moderate doses produced tuberculous lesions, often numerous and widely distributed. But the animals remained well and grew large and fat. "The difference is very striking to those who see one lot invariably die and the other, as a rule, live to be large, well-grown and fat animals."

Virulence for other species.—The facts as to each species are set out at length in the report. The goat and pig, like the ox and rabbit, were highly susceptible to the attack of tubercle bacilli belonging to Group I. and were able to overcome infection with bacilli of Group II. The few experiments on the cat showed that it might be infected by feeding with bacilli of Group I., while it was extremely resistant to bacilli of Group II. The chimpanzee, monkey, and guinea-pig proved highly susceptible to infection set up by bacilli of either kind. Rats could only be affected by bacilli of either group when these were administered in enormous doses. When rats succumbed to tuberculosis the fatal result appeared to depend upon the enormous multiplication of the bacilli which gradually took place in the tissues, accompanied by very little tissue reaction or new formation. Organs which were swarming with tubercle bacilli appeared normal to the naked eye, or merely swollen and congested. Dr. Cobbett infers that while the tubercle bacillus can multiply freely in the tissues of the rat that animal is insusceptible to the toxins of the bacillus.

"*Passage experiments.*"—One of the most interesting portions of the Royal Commission's second report was that in which are described the results of passing certain viruses of Group II. through a series of calves in succession, and thereby obtaining emulsions from the organs of the later animals in the series which gave reactions characteristic of the bovine virus or Group I. These emulsions caused fatal progressive tuberculosis in calves and rabbits, while the bacilli, from being of the "eugonic" type, had acquired morphological and cultural characters which placed them in the "dysgonic" class. The publication of this report enables the whole of the animal experiments with the viruses in question to be followed in detail

Human tuberculosis of bovine type.—In order to show the origin of the human tuberculous material which furnished the viruses which were found to belong to Group I., and to correspond to the "bovine" type, we may here summarise a table given in the Commission's second report, which was based upon the results obtained with 60 out of the 63 viruses dealt with by Dr. Cobbett.

Nature of case.	Number of cases.	Part used for experiment.	Virulence for bovines and rabbits.			
			Virulent (Group I.).	Slightly virulent (Group II.).	Irregular virulence.	Slight virulence at first, afterwards virulent.
Cases with tuberculous sputum.	4	Sputum.	1	2	—	1
Primary pulmonary tuberculosis.	10	Lung.	—	10	—	—
General tuberculosis.	1	Bronchial glands.	—	1	—	—
Bronchial gland tuberculosis.	4	Bronchial glands.	—	2	—	2
Cervical gland tuberculosis.	9	Cervical glands.	3	6	—	—
Primary abdominal tuberculosis.	19	Mesenteric glands and other tissues.	10	8	1	—
Joint tuberculosis.	10	Scrapings from joints, &c.	—	9	—	1
Tuberculosis of testicle and kidney.	2	Testicle, kidney.	—	2	—	—
Lupus.	1	—	—	—	1	—

The virus from the single case of lupus employed possessed a high degree of virulence to the rabbit scarcely inferior to that possessed by viruses belonging to Group I., and a low degree of virulence for the calf, only slightly greater than that possessed by viruses of Group II. It did not seem possible to regard this virus as intermediate between the two groups but rather as belonging to a special class of its own.

THE LONDON COUNTY COUNCIL AND THE EMPLOYMENT OF CHILDREN.

THE following by-laws have been made by the London County Council, pursuant to the provisions of Sections 1 and 2 of the Employment of Children Act, 1903, regulating (*a*) the employment of children generally, and (*b*) street trading by persons under the age of 16 years within the County of London (exclusive of the City of London).

Note.—By Section 13 of the Act the expression "child" means a person under the age of 14 years.

As to the Employment of Children Generally.

1. A child under the age of 11 years shall not be employed.

2. A child liable to attend school full time shall not be employed on days when the school is open in industrial work at home except between the hours of 5 P.M. and 8 P.M., or on other days, except

between 9 A.M. and 12 noon and between 5 P.M. and 8 P.M., or on Sundays. Industrial work shall mean any work in which manual labour is exercised by way of trade, or for purposes of gain in making, altering, repairing, ornamenting, finishing, adapting for sale or cleaning any article.

3. A child liable to attend school full time shall not be employed, on days when the school is open, for more than three and a half hours a day, or (*a*) between 8 A.M. and 5 P.M.; (*b*) before 6 A.M. or after 8.30 P.M.

4. A child liable to attend school full time shall not in any week in which the school is open on more than two days be employed for more than 20 hours.

5. A child liable to attend school full time shall not be employed, on days when the school is not open (*a*) before 6 A.M. or after 9 P.M.; (*b*) for more than eight hours in any one day.

6. A child liable to attend school full time shall not in any week during which the school is open on two days only or less be employed for more than 30 hours.

7. A child shall not be employed on Sundays except between the hours of 7 A.M. and 1 P.M. for a period not exceeding three hours.

8. A child shall not be employed in or in connexion with the sale or delivery of intoxicating liquors except on premises where such liquors are exclusively sold in sealed vessels.

9. A child shall not be employed in any process carried on in a laundry to which the Factory and Workshop Act, 1901, does not apply.

10. A child under the age of 12 shall not be employed as a lather boy or in any similar occupation in any barber's or hair dresser's shop.

As to Street Trading by Persons Under the Age of 16 Years.

11. A girl under the age of 16 shall not be employed in or carry on street trading except in the company of her parent or guardian; provided that this by-law shall not take effect until six months after confirmation.

12. A child liable to attend school full time shall not be employed in or carry on street trading, on days when the school is open, for more than three and a half hours a day.

13. A child exempt from school attendance shall not be employed in, or carry on, street trading, and a child liable to attend school full time shall not be employed in, or carry on, street trading on days when the school is not open, (*a*) before 7 P.M.; (*b*) after 9 P.M. when employed under the immediate direction and supervision of an adult person having charge of a street stall or barrow; (*c*) after 8 P.M. when employed in any other form of street trading; (*d*) for more than eight hours in any one day.

14. A person between the age of 14 and 16 shall not be employed in, or carry on, street trading before 6 A.M. or after 9 P.M.

15. A child or person under the age of 16 engaged in street trading shall not enter any premises licensed for public entertainment or for the sale of intoxicating liquor for consumption on the premises for the purpose of trading.

THE LONDON MEDICAL EXHIBITION.

(*Concluded from p. 1108.*)

AN especial feature of this exhibition was the large number of foods represented. Many of these were too well known to be mentioned and we deal only with those foods which are of comparatively recent introduction. Although the foods were intended chiefly for infants, invalids, and the aged, there were also on view foods suited for persons under ordinary conditions.

International Plasmon, Limited (London, E.C.), showed a number of their well-known preparations, some of which, it may be mentioned, are intended for the use of those suffering from diabetes. The specialities of Messrs. J. Reynolds and Co., Limited (Albert Flour Mills, Gloucester), are stated to be pure wheaten flour products. The Aylesbury Dairy Company, Limited (St. Petersburgh-place, Bayswater, W.), showed two new preparations in humanoid, a concentrated preparation which is said on dilution to resemble mother's milk, and pollyta, a solid milk food for infants after weaning. Messrs. Peek, Frean, and Co., Limited (Drummond-road, London, S.E.), made a special feature of "Tilia," a powder which has already received notice in our analytical columns, consisting for the most part of milk protein which has been rendered soluble by suitable treatment. The Protene Company, Limited (36, Welbeck-street, New Cavendish-street, London, W.), drew the attention of the visitor to the merits of their milk products. Callard and Company (74, Regent-street, London, W.) showed specimens of starchless foods. Central Racia Depôt (Southfields, London, S.W.) exhibited Racia food for infants and invalids. Modified milk, sugar-free milk, and foods were shown by Messrs. Clay, Paget, and Co., Limited (79, Ebury-street, London, S.W.). Casumen, a milk powder, was the principal exhibit at the stall of Prideaux's Pure Casein and Life Food Co., Limited (Motcombe, Dorset). Moseley's food and Moseley's cocoa were exhibited by the proprietors of Foods, Limited (Stockport). Diabetic foods and preparations for use in cases of obesity, gout, &c., were shown by Bonthron and Co. (50 and 52, Glasshouse-street, London, W.). The "John Bull" brand of dietetic articles was to be seen at the stall of Messrs. Paine and Company (St. Neots, Huntingdonshire). The stall of Messrs. Brand and Co. (74–84, South Lambeth-road, Vauxhall, London, S.W.) contained specimens of their well-known products, amongst which were a comparatively new preparation of meat juice consisting of the juice of meats extracted in the cold and rich in natural uncoagulated proteids and a home-made beef-tea in the form of a jelly. Messrs. Lamont, Corliss, and Co. (11, Queen Victoria-street, London, E.C.) exhibited a dry-beef extract in granular form which they are introducing.

There were but few beverages of an alcoholic nature exhibited nor were there many of a non-alcoholic character. Amongst the latter may be included mineral waters. Messrs. Wm. Gaymer and Son, Limited (Attleborough, Norfolk), exhibited samples of various brands of cyder. Messrs. George Back and Company (13, Devonshire-square, London, E.C.) had at their stall samples of "G.B." diabetes whisky. Mostelle, made from the juice of Spanish grapes, a non-alcoholic beverage and one which has been noticed in our analytical columns, was the sole exhibit of the Grape Juice Company, Limited (4, Furnival-street, London, E.C.). Messrs. Ingram and Royle, Limited (East Paul's Wharf, 26, Upper Thames-street, London, E.C.), showed at their stall most of the best-known mineral waters, and Messrs. Idris and Company, Limited (Pratt-street, Camden Town, London, N.W.), and Perrier (45 and 47, Wigmore-street, London, W.) also exhibited their waters. Friedrichshall was shown by C. Oppel and Co. (10 and 12, Milton-street, London, E.C.).

The display of instruments and surgical appliances, although but a few firms were represented at the exhibition, was of a high order. The stall of Messrs. S. Maw, Son, and Sons (7 to 12, Aldersgate-street, London, E.C.) contained some interesting exhibits. Among these were an extremely simple apparatus for modifying cow's milk, known as Humaniser No. 11, Payne's reagent for the volumetric estimation of sugar, a new standard electric lamp, and the "Dutch suture needle." The exhibit of Messrs. Allen and Hanburys, Limited (48, Wigmore-street, London, W.) was good in every respect. Surgical instruments, appliances, and dressings of the most modern make were shown in large quantities. At Stand 97, Messrs. Croyden and Company (55, Wigmore-street, London, W.) showed a fine assortment of catheters, bougies, &c. Messrs. Browne and Sayer (104, Upper Thames-street, London, E.C.) had an interesting display. A new pattern operating apron, which fastens by springs at the neck and waist, the waist spring being jointed, attracted attention. C. A. Hoefftcke, Limited (21, Woodstock-street, Oxford-street, London, W.) exhibited among other ingenious appliances for the use of the surgeon a machine for putting on an operating glove quickly. George Culver, Limited (White Lion-street, Pentonville, London), exhibited optical instruments in great variety, as did Messrs. F. Davidson and Co. (29, Great Portland-street). An interesting and instructive display was that of Messrs. Newton and Co. (3, Fleet-street, London, E.C.). Here were shown electro-medical appliances of the most modern make. The greatest novelty was a heavy discharge Apps-Newton 15-inch coil. These new coils give an output of as much as 25 milliampères at 15 inches sparks. Various other electric appliances were exhibited, as well as a light-bath cabinet so constructed that the lamps may be regulated by the patient whilst in the bath. The Barker vibrators were shown at the stall of James Barker (99, Regent-street, London, W.).

Messrs. J. and J. Taunton, Limited (Birmingham), showed hospital beds and mattresses of excellent construction from the standpoint of hygiene and comfort. Hospital furniture of every description was exhibited at the stand of the Hospitals and General Contracts Company (33 and 35, Mortimer-street, London, W.). A cheap and handy minor operation case and steriliser combined, a handy dressing cabinet, and a handy case of splints were among the most prominent features of this large and comprehensive exhibit. Equipoise, Limited (Ashford, Kent), showed couches, bed lounges, easy chairs, and bath chairs, all constructed on the now well known equipoise principle. The equipoise articles of furniture have already been favourably referred to in THE LANCET. Messrs. J. Defries and Sons, Limited (146 and 147, Houndsditch, London, E.C.) exhibited filters; Messrs. Holden Bros. (8, Harewood-place, London, W.) showed nature-form boots, shoes, and hosiery; and Messrs. T. Holland and Son (46, South Audley-street, London, W.) exhibited surgical boots of various kinds. Lastly, a number of publishers had stalls on which were shown specimens of recent medical literature.

DEATHS UNDER ANÆSTHETICS.

IN view of the interest which has recently been aroused in the subject of death under anæsthetics we here give the proceedings at the recent inquest on a patient dying in Guy's Hospital while undergoing an operation.

Dr. F. J. WALDO, coroner for the City and Southwark, held an adjourned inquiry at the Mission Hall, Colliers Rents, Southwark, on Monday, Oct. 14th, into the death of Minnie Colston Morgan, aged 29 years (the wife of John Henry Morgan, a fitter, of Walworth), who died at Guy's Hospital on Oct. 3rd whilst under an operation.

The CORONER said that in order to refresh the memories of the jury he would go through the evidence taken on Oct. 7th.

The evidence first taken was that of John Henry Morgan of 37, Nursery-row, Walworth. He said: "I am husband of deceased, and a fitter by trade. I identify the body now lying dead as that of my wife Minnie Colston Morgan, 29 years. She was a healthy woman till 18 months ago. We have two children. She had exophthalmic goitre 18 months ago—a slight swelling of the throat to the side. No shortness of breath. She attended a 'hospital' in Bermondsey as an out-patient. She went into Guy's Hospital then and was there five weeks. No operation was done then. She had the rest there and medicines. She discharged herself—rather against the wish of doctors. Then she was treated there as out-patient. She got worse. Then she went to Throat Hospital at Golden-square as out-patient about three months ago. No operation. She was given medicines. There was greater difficulty in breathing and the swelling got larger. She gave up Golden Square Hospital and went again to Guy's Hospital. She was admitted on 3rd September to undergo operation on her throat. My wife consented. My consent was not asked—they presumed I agreed. I did so. She was operated on on 10th Sept. and she got better and her breathing got better. She went on well. I understood the operation was not a complete one, and a second operation was necessary. On 2nd Oct. she told me she had to go through it. She was very low spirited and fretted about it very much. Next day I understood she was about to be operated on and suddenly died. I am quite satisfied with her treatment while at hospital. I am sure my wife has had no other operations."

Then questions were put by the members of the jury and in answer to these questions the husband said: "My wife did not know there was to be two operations. The knowledge that a second operation was necessary was kept from her, I was told, because she should not be kept back from recovering from the first operation."

The CORONER went on to read the other evidence given on the previous Monday as follows:—

"KENELM HUTCHINSON DIGBY on oath said: I am a registered medical practitioner and house surgeon at Guy's Hospital since October 1st, 1907. I gave the anæsthetic to deceased on 3rd October. Before I am qualified I have to attend a course of lectures—four—and also act as anæsthetist's clerk for a month—we give anæsthetics under the superintendence of the full anæsthetists; there are four senior and four assistant or junior anæsthetists. I was present at between 40 and 50 such cases and was 'signed up' before I went in for my examination. There I was not asked questions as to anæsthetics. Since then I have given anæsthetics in 98 cases, ether, chloroform, A.C.E., &c. I gave ethyl chloride once or twice. I have given nitrous oxide also; that is not included in the 98 cases I speak of. Deceased was under my charge three days before I gave anæsthetic. She suffered from exophthalmic goitre or growth of gland of neck pressing on air passages. The operation was to be done in two parts—to tie the main arteries leading to the parts where the gland growth was. Mr. Symonds was the surgeon. He decided on the operation. All house surgeons give the major part of anæsthetics at Guy's Hospital. We have no resident anæsthetists to give anæsthetics in emergency—the house surgeon acts in all cases of emergency. I was not present at the operation on Sept. 10th. Mr. Welchman, house surgeon (for six months then) gave the anæsthetic. He had given anæsthetics in 1500 cases. He gave chloroform. She got over the operation. On 3rd October I was present and gave the anæsthetic to deceased in operating theatre. Mr. C. J. Symonds, the surgeon, and a sister and nurse and three dressers (unqualified) were present. I used acetone chloroform. An attempt had been previously made to use a local anæsthetic—eucaine—but the patient was so nervous that a general anæsthetic was considered advisable. It was the only anæsthetic that could well be used because the others caused so much venous congestion or bleeding."

The CORONER proceeded to state that he asked a number of questions that he always asked in other cases of inquiry and Mr. Digby filled them up fairly fully. He need not trouble them with these; he had them all in writing and signed by Mr. Digby. He (the coroner) should have added the following which also appeared in Mr. Digby's evidence: 'The operation had been commenced; patient retched and brought up an ounce or two of fluid. She was not suffocated by the fluid. Deceased was still under chloroform when death occurred. Death was due to heart failure whilst under the influence. I have not had a previous fatal case. I was present at the post-mortem examination."

When Mr. DIGBY was recalled he said: "I agree with post-mortem reports and results."

The evidence of GILBERT WILLIAM DE POULTON NICHOLSON on oath was: "I am demonstrator of morbid anatomy and a registered medical practitioner of Guy's Hospital. I made a post-mortem examination of this body. I examined thyroid gland: it weighed 202 grammes, or about seven ounces. It should weigh some half ounce to one ounce. I could not see that the windpipe had been pressed upon but of course the thyroid growth is a soft one. The thymus gland weighed 98 grammes: it should not be there at all in an aduit. Heart failure was the cause of death. The persistence of the thymus, I should say, would have caused death in any case but the patient was under the influence of chloroform. I should prefer chloroform to ether because you can watch the patient better. The thymus disappears usually about the second year of life. It is not very often found in cases of adults. Occasionally it is found."

The CORONER proceeded to recall Mr. Digby.

Mr. DIGBY, questioned by the CORONER, said he was house surgeon at Guy's Hospital, and in the case of the deceased he had acted as anæsthetist. He took full responsibility in administering the chloroform. With regard to the position of the patient before the chloroform was administered, she was in the dorsal position, on the back with the head a little extended. Then he commenced giving the chloroform.

The CORONER: Was the position altered?—She had a pillow put under her shoulders to expose the neck a little more fully.

How long about was it after you first started giving chloroform that you altered the position?—It would be some five or ten minutes.

Then you went right on with the chloroform?—Yes, after I put the pillow under her shoulders.

She was not in a sitting position subsequently?—No.

Mr. DIGBY further stated that the first untoward symptom that he noticed in the patient was a change of colour. She went to a bluish pallor. She became blue in the face.

The CORONER: You previously said you had given an anæsthetic in 98 cases of operation. Have you ever given it in a case like this or one having anything to do with the thyroid gland?—I have given chloroform in a case of operation about the neck.

In a thyroid case?—I do not remember one.

As far as you can tell us what time had elapsed before you noticed this bluish pallor on the face of the patient?—The incision had been made. It is very difficult to estimate the time.

But you could state it roughly?—A few minutes; not more than five minutes certainly.

How long was it from the time you first commenced giving chloroform to the time that you noticed the bluish pallor?—Not more than a quarter of an hour: about that I should think.

From the time you first started with the chloroform up to the time that Mr. Symonds made his incision, how long was it?—About ten minutes.

So that it was about five minutes before you noticed this bluish pallor?—Yes.

When this bluish pallor came on had anything else been done? The incision, you say, had been made about ten minutes after giving the chloroform.—I was not watching the operation.

You said that the bluish pallor was the first bad symptom you noticed. And you said something about vomiting and retching. What position was the patient in when the retching went on?—Only with the pillow under the shoulders.

How long was it after giving chloroform that the patient began to retch?—About five minutes.

You were giving the chloroform lightly?—Yes.

What did you do when the patient retched?—I turned her head on one side. She got over the vomiting after that.

When you saw the change of colour, the bluish pallor, what did you do?—Knowing how lightly the patient was under the anæsthetic I did not think it was very serious for a moment and then immediately I stopped giving the anæsthetic.

Did you do anything else beside that?—No; the patient was breathing and there was still a pulse.

How long did you leave the patient with the head back until you took the next step?—A minute or two.

Were there any laryngeal signs, what you doctors call stridor or crowing, after the introduction of the anæsthetic? There was no crowing. I noticed some spasm of the larynx but not any other symptoms.

For a moment you thought the case was not serious and then you saw it was really serious. What did you do next?—The head of the table was lowered and of course the whole of the patient with it and artificial respiration was commenced. I pulled out the tongue directly I thought the case had become serious, a minute or two after the bluish pallor made its appearance. Artificial respiration was performed for about 20 minutes.

When you commenced artificial respiration, did not air enter and leave the chest and if so how did you ascertain this?—I felt it with my hand. I am quite sure air was entering.

How long have you been qualified as a medical practitioner?—I was qualified in January of this year.

Are you aware that exophthalmic goitre is often associated with persistent thymus gland and that in such cases it is generally regarded as specially dangerous to anæsthetise?—I was aware of that but the patient had already taken one anæsthetic without dangerous symptoms.

I have got some books which have been published fairly recently and bear out what you say. Here is a book by Pollock who says: "Persistent hyperplastic thymus glands are not infrequent in cases of exophthalmic goitre." I have also a book by Fleming, lecturer on the Practice of Medicine in the Royal College, Edinburgh. He says: "It is possible that hyperplastic thymus adds to the danger of general anæsthesia." Do you know how it might cause danger? He says: "By causing pressure on the bronchial tubes or the vagus nerve." At any rate, you agree with that. He also says, "Recently enlargement of the thymus has been associated with exophthalmic goitre, although the relationship between the two affections has not yet been made clear." Have you anything else to add to your evidence?—No.

GILBERT WILLIAM DE POULTON NICHOLSON (demonstrator of morbid anatomy at Guy's Hospital), questioned by the Coroner, said he had held that post since Jan. 1st last. He was qualified as a medical practitioner at the beginning of 1906. He made a post-mortem examination of the deceased. In answer to further questions Dr. Nicholson said that the scalp, skull, meninges, brain, medulla oblongata, and spinal cord were healthy. The larynx, trachea, and bronchi were also healthy and so were the lungs and pleura. The pericardium was healthy. The heart was fatty. The right side of the heart was not excessively full of blood. There was a certain amount of blood in the right side. There was some blood in the left side of the heart but not much. It was a little distended with blood. The tricuspid valve was dilated and the heart was from 12 to 13 ounces in weight. In a healthy woman the heart weighed about nine ounces. The blood was fluid and black. The liver, spleen, and kidneys were healthy. The cause of death was heart failure.

The CORONER: Do I understand you to say that in your opinion death was due to heart failure primarily, quite apart from suffocation? Or do you think that suffocation first induced death?—Death was due quite apart from suffocation. The case was purely and simply one of heart failure.

Will you tell how the thymus gland, if implicated, acts upon the heart?—Is it mechanically by pressure on the trachea or how does it act?—It may possibly impede the heart or press on the nerves of the

heart. It might press on the vagus nerve. But I could not say definitely how it impedes the action of the heart.

Mr. SYMONDS, one of the surgeons at Guy's Hospital, next gave evidence.

The CORONER: I understand that you were operating on this case at the time of death?—Yes.

Do you assume responsibility in the case as regards anæsthetisation?—I take partial responsibility for the anæsthetic distinctly.

Mr. Digby has told us that he was responsible for the case as regards anæsthetisation?—In that sense I think he is right. Whenever a case comes to me under an anæsthetic I make it a rule to be always present in the early stages which are dangerous. In exophthalmic goitre, which gives one the greatest possible anxiety in operating, I am always present and also advise my anæsthetist carefully as to the depth of anæsthetisation during the operation. That is a point of the greatest importance.

Mr. SYMONDS, in reply to further questions, said that chloroform was the only possible anæsthetic to give in such a case. Throughout the whole of the operation he always gave "half an eye" to the anæsthetisation because he could tell by the colour of the tissues and of the vessels and the amount of breathing whether the patient was safe or not. In that way he could help very much.

The CORONER: Do you recognise that giving an anæsthetic is dangerous in an operation for exophthalmic goitre?—Yes, certainly.

It is not an easy case, so authorities tell me, to operate about the neck where there are many nerves and vessels. It is not an easy case in which to give chloroform, is it?—I think that in all goitres it is quite easy, except in cases of exophthalmic goitre which are very dangerous.

Mr. SYMONDS went on to say, in answer to further questions, that in regard to the position of the patient during the operation the head had to be a little extended and that was a real additional danger. But still it could not be helped. That risk had to be taken in the operation.

The CORONER: Is it a fact that persistent thymus is usually associated with exophthalmic goitre?—I do not know much about that question.

Is it a fact that an enlarged thymus is associated with sudden death?—I am not aware of it.

These books state that it is a fact.—I do not know; I am not acquainted with it.

Is a patient suffering from exophthalmic goitre and therefore possibly from an enlarged thymus and having to be placed in a peculiar position at the operation, in your opinion, unfavourably disposed towards an anæsthetic?—It is a little difficult to answer. But I should say that every patient with exophthalmic goitre is in the first place liable to sudden death and anything that obstructs the heart increases that liability and this might be done by the position of the patient. An enlarged thymus would increase the pressure on the trachea and unfavourably predispose the patient towards an anæsthetic. I was obliged to use chloroform in this particular case because of her great distress. She knew quite well that it was intended to perform a second operation because it had been already arranged for one day and they had to postpone it. I had already done one operation on Sept. 3rd. In this second operation I ligatured the thyroid arteries. She took the chloroform and it was very well given. Injections of eucaine were used first in both operations That was a local anæsthetic. It was not sufficient because the patient's nerves were so much upset. Chloroform was the thing to give in such a case. Patients suffering from exophthalmic goitre were unsuitable because of the nervous condition of the heart. Fright was another important factor that made those patients bad subjects for operation under chloroform.

Was it wise, then, to intrust the chloroforming in this particular case to an administrator of comparatively little experience?—I should not hesitate to do so again because I always share the supervision of the anæsthetisation.

I should have thought your hands would have been full in doing the operation?—I do not say the operator is responsible, but I say he certainly can share the responsibility because he can give the first warning to the anæsthetist, by the very appearance of the wound, that there is danger coming. He knows it very often before the anæsthetist and in that sense he can help.

Why in a case of this kind was not one of the special anæsthetists on the staff called in to administer the chloroform?—The operation took place on a Thursday and on that day of the week there were no special anæsthetists in attendance. He is in attendance for me on Tuesdays only.

One said he lived in St. Thomas's-street. Could not you get a gentleman like that?—I did not think it necessary; it is not essential.

What are those eight gentlemen appointed for as anæsthetists?—They have their duties.

They are put down, I see, in the book as anæsthetists to Guy's Hospital.—They each have a certain day in the week. The previous operation went perfectly well with my house surgeon. This unfortunate death was a pure question of the vomiting.

Is a statistical table kept of anæsthetics administered, showing the number of administrations and administrators and the nature of the anæsthetics used and other details?—A more or less complete one is kept; I cannot say exactly how full it is.

I have taken a considerable amount of trouble to try to get those details, but I have failed. In regard to other hospitals, by going to the Royal Medical Society I get the annual reports and in them all those details are given most carefully and I can see how many deaths occurred in these cases. I have not been able to get anything of the kind at Guy's.—I should think the superintendent could supply you with that.

I am told that there is no such thing.—I am not quite sure.

Do you agree with that conclusion presented in the report of the Anæsthetics Committee of the British Medical Association published in 1900 (pp. 125–135)? From the evidence before the subcommittee they are convinced that by far the most important factor in the safe administration of anæsthetics is the experience acquired by the administrator; that in many cases the anæsthesia completely transcends the operation in gravity and importance; and to attain success in those cases it is absolutely essential that an anæsthetist of large experience should conduct the administration. Do you agree with that?—The more expert a man is the more valuable he is. We could not carry on our hospital in that way. But as a general statement it is true enough.

In the face of that report do you still think it wise to have left the administration of the anæsthetic in the present case to any but an administrator of large experience?—I should have no hesitation in repeating what I have said.

You still think that Mr. Digby was the right man?—Yes.

I have got here a book published in 1907, a book by Frederick W. Hewitt, anæsthetist to His Majesty the King, physician-anæsthetist to St. George's Hospital. You recognise him as an authority on anæsthetics?—Yes.

There is one piece that I should like to read and ask your opinion upon. It is in the preface to the third edition. Dr. Hewitt first says that it is a great mistake that the operator should in any way be responsible and that the gentleman who gives the anæsthetic should be alone responsible. He goes on to say—"Another reform needed is the appointment within our hospitals of an adequate number of officers for the special administration of anæsthetics, the senior of such officers being a member of the staff and possessing academic or professional qualifications similar in every respect to those required for other staff appointments at his particular hospital. This special department of practice should, in fact, be expanded in such a way that every anæsthetic within our hospitals is given by an officer appointed for such duties. This would, of course, increase the number of junior hospital appointments, but it would be of great advantage, not only to the public but to the profession, to have a constant stream of experienced anæsthetists issuing from our great centres of medical education. The present requirements of surgery, so far as the administration of anæsthetics is concerned, are of a totally different order from those which prevailed twenty or thirty years ago when abdominal operations were in their infancy; and to meet such requirements the modern anæsthetist has come into existence. This product of recent times is not only able to obviate a considerable number of fatalities which would otherwise occur from the unskilled use of anæsthetics, but by adjusting his administrations so as to prevent surgical shock by guarding against certain after-effects, and by other means, he is able to contribute in no small measure to the success of operations in general. Yet, curiously enough, there are still many thousands of educated men and women who look upon the process of anæsthetising, as practised by the now large body of special anæsthetists, as corresponding in its importance and responsibilities to poulticing, bandaging, or some other purely mechanical procedure, and who have little or no idea that the success of even the simplest surgical operation may be dependent to a large extent upon the anæsthetist. Is there not just as great a scope for professional skill and judgment when the respiratory, the circulatory, and the nervous functions of a patient are being profoundly modified by a general anæsthetic as there is during enteric fever or some other ailment for which the services of experienced physicians are generally regarded as essential? Yet it often happens, not only in hospital but in private practice, that the safety of a patient during perhaps the most critical hour of his life is entrusted to the mercies of one who has had little if any, scientific training, and whose acquaintance with the powerful drugs he is handling bears an inverse ratio to the self-confidence displayed in their administration. This state of things is open to much criticism and should certainly be remedied Until some reforms of the kind here indicated have been introduced human life will continue to be sacrificed to an unnecessary extent, and the progress of surgery will be unnecessarily retarded" Do you agree with that? What do you think?—The only reply I will make to that is to repeat what I said just now, that the greater the experience the more valuable the man. I cannot say more than that. I take it that is what it means. Without giving an address on the subject it would be impossible to answer it more.

It seems rather strong?—That is his personal opinion, I am aware. We have to carry on a very busy work and we have more anæsthetists, I think, than any other hospital in London at the present time.

Are you satisfied with the acetone chloroform used at Guy's Hospital? There are three kinds of chloroform used?—I do not sufficiently know the point to be able to answer the question.

In the Transactions of the Society of Anæsthetists (Vol. VII.) there is an article written by your chemist, Dr. Wade, on the subject of "The Chemical Difference between Chloroform made from Alcohol and from Acetone." Mr. Digby told me that acetone was not alcohol at all; it was one of the products of the distillation of wood. It is stated in this article: "Frequent complaints had been made that patients had an undue tendency to cough and hold their breath, and that the prolongation of the time of induction thus brought about might lead, in inexperienced hands, to the administration of an overdose."—It is a subject that I cannot express an opinion upon.

In regard to the operation, why was it done in the case of a patient suffering from exophthalmic goitre? Is it a common operation?—The malady is a fatal one and the operation was done with the object of curing her.

Is the operation done in order to get the gland less in size?—Yes; it withers.

Have you performed that operation often?—No, not often.

What have been the results?—The results have been chiefly Professor Kocher's results which were so good that one felt compelled to do the operation that way.

What did you actually do in the operation?—I had made a transverse incision of about one and a half inches in length through the skin. That was all that was done.

Who was the first to notice this untoward symptom, the bluish pallor of the face?—I think we both noticed it immediately.

Noticing it, did you immediately move the head? Mr. Digby said this was done after one or two minutes.—It is difficult to calculate time. I should think that seconds would more express the length of time than minutes.

What was the cause of death in your opinion?—It is a little difficult to say in these cases.

Was it suffocation in this case caused by heart failure or was it purely heart failure?—It is very difficult to explain the sequence of events. I think probably death was due to sickness brought about by interference with the respiration.

Is it a fact that when one is vomiting the respiration during the act of vomiting is stopped?—It is interfered with certainly.

In that case you would get suffocation?—She held her breath, of course.

If a patient were left for one or two minutes, particularly with a weak heart, death would follow, would not it?—It was not one or two

minutes. The whole thing was done in a few seconds; everything was done with the utmost rapidity and we all recognised the danger.

Do you agree with Mr. Digby as to the cause of death being purely heart failure?—Well, cardiac failure covers a multitude of sins.

Do you think that failure of the heart's action was the immediate cause of death?—There are many contributory causes. First, there was the exophthalmic goitre with a tendency to cardiac dilatation. Then there was the lightness of the anæsthetic and therefore a powerful reflex, then the vomiting with interference with the respiration, and the blueness that follows on cardiac failure. There is very little danger in chloroform provided the patient has not got exophthalmic goitre. The same precautions that are always taken were taken here without avail, unfortunately. I think any other patient would have certainly recovered. During 24 years of my experience this is the second time this has happened to me. I never saw a patient die in this condition before. Recovery has always taken place.

In those other cases who administered the chloroform?—My house surgeon.

Mr. H. FINNEMORE, the next witness, said he was a Fellow of the Institute of Chemistry and a Bachelor of Science. He was pharmacist at Guy's Hospital and he had held that position for six years. He was the chief pharmacist there. The chloroform given in this particular case was made from acetone. The chloroform was bought by contract and answered all the tests of the British Pharmacopœia. It was made by the United Alkali Company. There were three kinds of chloroform used for general anæsthetics. The first was made from ethylic alcohol, which was the same thing as rectified spirits. The second kind was made from methylated spirits and there was no duty to pay on that. The third kind was made from acetone. There was no alcohol in it nor was there any duty to be paid on it. He was perfectly certain that the acetone chloroform used in this case was obtained from the firm he had mentioned. At Guy's Hospital they had been using acetone chloroform for several years. He might say, speaking from conversation with anæsthetists, that there was no difference between those different kinds of chloroform. As to price, acetone chloroform cost 1s. 4d. a pint. Chloroform made from ethylic alcohol cost 5s. or 6s. a pint. The chloroform was kept in the dark. If it was kept in sunlight it was liable to go bad, but special precautions were taken against that. It would take some years for it to go bad if it was properly purified. Nothing was added to the acetone chloroform which had been used for some years past at Guy's Hospital.

The CORONER: In this book "The Transactions of the Society of Anæsthetists" there is a paper by Dr. Wade on "The Chemical Difference between Chloroform made from Alcohol and from Acetone." He says (Vol. vii., p. 84): "In the early part of 1904 I was asked by my colleague, the senior anæsthetist to Guy's Hospital, whether I could trace the cause of what seemed to be an irregularity in the action of the hospital chloroform. It appeared that frequent complaints had been made that patients had an undue tendency to cough and hold their breath and that the prolongation of the time of induction thus brought about might lead in inexperienced hands to the administration of an overdose. On consulting Mr. H. Finnemore, A.I.C., the chief pharmacist to the hospital, I found that he had already tested for the usual impurities with entirely negative results, a conclusion in which I entirely concurred on repeating the tests with him. Inquiry from the wholesale dealers elicited the fact that the chloroform supplied to the hospital was usually manufactured from acetone, although the 'methylated' product was occasionally sent; the use of chloroform made from rectified (i.e., duty-paid) spirit had been discontinued some years previously on the score of economy, the difference in price amounting to upwards of £200 per annum. Repeated examination of both acetone and spirit chloroform by the ordinary tests failed to show the presence of any foreign substance other than the 0·5 per cent. of rectified spirit added for preservative purposes. Indeed, as the drug had been kept in filled Winchesters in a cool, dark cellar, the presence of products of decomposition was not to be expected. I satisfied myself that the chloroform supplied by the dealers not only fulfilled the requirements of the British Pharmacopœia but was of a highly creditable degree of purity. Nevertheless, the strong feeling of some of my colleagues that there was something abnormal in the action of the drug, made me unwilling to relinquish the subject, and after various abortive attempts to trace the presence of such new impurities as chemical considerations led me to think might possibly be present I decided to submit the various kinds of chloroform to a very refined process of fractional distillation. ..... Supposing, therefore, the commercial acetone chloroform to be chemically pure chloroform containing 0·5 per cent. of alcohol, as stated by the manufacturers (and incidentally a trace of water), it should distil for a short time at 55·5°, namely, until the water is exhausted; the temperature should then rise to 59·4°, until the remainder of the alchohol has passed over; finally, the remaining chloroform, which must obviously constitute the bulk of the product, should distil constantly at 61·15°. As this is precisely what happened with the commercial acetone product it was quite clear that this was really what it purported to be, namely, chemically pure chloroform containing a small quantity of moist alcohol. ..... For some time past chloroform has been supplied to the hospital wards with the addition of 0·25 per cent. of ethyl chloride, and it has been found in practice that with these proportions little, if any, of the chloride is lost by evaporation. I must leave it to my medical colleagues to speak of the therapeutical results and their physiological explanation, but it is significant that complaints as to irregularity of action have entirely ceased since the introduction of the new product. ..... I am strongly of opinion that the use of chloroform manufactured from duty-paid alcohol is economically indefensible seeing that an identical product is obtained by adding a very small proportion of ethyl chloride to the commercial chloroform made from acetone. Acetone chloroform has a degree of purity which is very unusual in commercial products, and is, I think, preferable to 'methylated' chloroform by reason of the greater simplicity of the chemical actions involved in its manufacture, and the consequent formation of fewer foreign products to be removed in the course of the purification." Then the report says that "Dr. Levy, having had experience of the pure acetone chloroform which was the subject of Dr. Wade's paper, he was persuaded that it was characterised clinically by a prolongation of the induction stage, due apparently to persistent excitement accompanied by a shallow or restrained type of breathing."

Did you hear of complaints made by the anæsthetists at that time?—I did from Dr. Levy and I arranged with Dr. Levy that I should send him chloroform made from methylated spirits and chloroform made from acetone and that he should try and see if he could detect any difference. The result was that Dr. Levy could not detect any difference in these two kinds of chloroform. When he did not know what chloroform he was using he could not tell whether it was made from acetone or from methylated spirits. We did this quite with his concurrence so that we should get this information.

A JURYMAN: Why should there be such a difference between the price of acetone chloroform and chloroform made from ethylic alcohol? Last week the coroner said that in all these 36 inquests most of the cases had been under the effects of acetone chloroform. The prices are 1s. 4d. per pound for this acetone chloroform and 6s. for that made from ethylic alcohol; and with only that difference why run this terrible risk?

The CORONER: There is no evidence pointing to any risk. The evidence is that acetone chloroform at 1s. 4d. is just as good as that made from ethylic alcohol at a cost of 6s.

The JURYMAN: If there is no difference why does the one cost 1s. 4d. and the other 6s.?

The CORONER? That has nothing to do with Guy's Hospital. You had better ask the manufacturers. With regard to the inquests, I said that the majority of the deaths had occurred under chloroform either in the form of chloroform alone or in the form of the mixture known as the A.C.E. mixture.

Mr. FINNEMORE: The reason of the difference in the price is that the ethylic alcohol has a duty upon it like whisky.

The CORONER: That is the answer. In the case of Guy's and charitable institutions like this, is it not possible that the Excise official might free you from that duty; but at any rate you as a chemist frankly say that you are satisfied with the chloroform used?—Absolutely as a chemist.

The CORONER: I do not know whether Mr. Symonds has anything to add with regard to the acetone.

Mr. SYMONDS: I am quite satisfied with the information given by Mr. Finnemore.

Have you any objection to its use whatever?—None at all.

The CORONER then summed up. He said: The deceased, Minnie Colston Morgan, aged 29 years, a married woman of Walworth, died at Guy's Hospital, on Oct. 3rd, 1907, whilst undergoing a surgical operation. She had been suffering from exophthalmic goitre for the past 18 months and had already undergone one operation at Guy's Hospital on Sept. 10th last. It was found necessary to perform a further operation on the throat and while under the influence of chloroform and before the completion of the second operation the patient died. The operation was performed by Mr. C. J. Symonds, one of the surgeons at Guy's Hospital, and the chloroform was administered by Mr. K. H. Digby, a qualified medical man and one of the house surgeons at Guy's Hospital. The operation was not of any great difficulty in itself and was confined to the tying of two arteries running into the thyroid gland. The intention was to reduce the size of the gland which lies in front of the windpipe and in its enlarged condition constitutes goitre. The surgeon had proceeded only so far as the first incision through the skin when the patient changed colour and died in spite of the application of various remedies and means of resuscitation. The case so far appears to be typical of a death in the early stage of light chloroform anæsthesia. In view of the frequency of deaths under anæsthetics it seems desirable to inquire somewhat minutely into the circumstances under which such fatalities have occurred. You have here the evidence of the various witnesses concerned, and in arriving at your verdict you may be assisted by the consideration of the following points which I have drawn up for your guidance. 1. Was the operation justifiable? I think, gentlemen, we may at once accept with the husband the position that the operation was necessary and justifiable. 2. What was the cause of death? Both the anæsthetist, Mr. Digby, and the pathologist, Mr. Nicholson, attribute death to heart failure whilst under the influence of chloroform. In support of that view we have the fact that the heart was somewhat enlarged and fatty and the valve on the right side dilated. In view of this evidence heart failure may, I think, be accepted as the cause of death. 3. Was the death due to the anæsthetic? In my opinion, gentlemen, we may safely conclude that death was determined by the inhalation of chloroform. 4. Does the operation of exophthalmic goitre demand special skill and experience on the part of the anæsthetist? Operations on the thyroid gland, it is generally admitted, are of a serious nature because of the important nerves and blood-vessels in that region and because of the nearness of the windpipe which is apt to be pressed upon by the enlarged gland. We have heard from Mr. Digby that exophthalmic goitre is usually associated with enlarged thymus gland and that such cases are generally regarded as specially dangerous to anæsthetise. That, I understood, was Mr. Digby's evidence on that point. I asked Mr. Symonds about that and he says that operations upon the thyroid gland are attended with special anæsthetic dangers. In that case it seems evident that it would have been wiser, to say the least of it, not to have placed the chloroform in the hands of a house surgeon who by the nature of things cannot possibly have more than a limited experience of anæsthetics. Indeed, Mr. Digby has told us he had never previously given chloroform for an operation on the thyroid gland. We have heard in evidence that there are eight visiting anæsthetists on the medical staff of Guy's Hospital. The major part of the anæsthetics at Guy's Hospital are given by the residents. In an operation of the kind under investigation there was no great urgency, so that the services of the visiting anæsthetist could readily have been secured. Under these circumstances, gentlemen, it becomes your serious duty to consider whether it was right to intrust the chloroform in the case of the deceased to a house surgeon whose experience has been confined to 98 cases of administration of anæsthetics. The question thus raised is one of system. Should the house surgeons at Guy's Hospital be permitted to give anæsthetics in other than cases of great urgency except under the immediate supervision of senior anæsthetists? We all recognise the necessity of medical men being properly instructed in the administration of anæsthetics, but I think most of us will also agree that all cases of recognised difficulty, as, for instance, those of operation about the throat or upper air passages, should be intrusted only to anæsthetists of long experience. That fact appears to be recognised by the appointment of eight visiting anæsthetists to Guy's. The question arises as to the way in which this system is applied, seeing that no professional anæsthetist attended to administer chloroform in so important a case as that of operation upon a goitre.

5. Had the administrator in this case the necessary skill and experience? My own opinion, gentlemen, based on the evidence before us, is that the administrator in this case was not equipped with the necessary experience for satisfactorily administering chloroform in an operation of this gravity. 6. Was the anæsthetic administered with reasonable skill? My view here, gentleman, is that no blame whatever attaches to Mr. Digby who simply performed the duty that was assigned to him. However, that does not prevent our condemning the system that allowed him to undertake duties that demanded a wider special experience. 7. Would it not have been wise to have called in one of the special anæsthetists? I think, gentlemen, we are entitled to ask the authorities of Guy's Hospital why a staff anæsthetist is not in attendance as a matter of course upon formal operations such as that under investigation. 8 Was the chloroform of proper purity? There is no evidence against the purity of the acetone form of chloroform in use at Guy's Hospital. Gentlemen of the jury, from a consideration of the evidence in the case of Minnie Colston Morgan I imagine you will have little difficulty in arriving at your verdict. If you think that deceased met with her death as the result of chloroform administered at Guy's Hospital on Oct. 3rd for a necessary surgical operation you will return a verdict of "Death by misadventure." Further, if you think no blame attaches to the administrator you will probably add that considering the limited experience of the anæsthetist no blame attaches to him personally. Whatever your verdict may be, gentlemen, I venture to suggest the addition of a rider recommending that in all operative cases of a serious nature anæsthetics should be administered either by a staff anæsthetist or by a resident under his immediate supervision. Further, I suggest the expression of the opinion that full statistical tables as to anæsthetics should be kept by the authorities of Guy's Hospital.

The jury, after consideration in private, returned a verdict of "Death from misadventure due to the administration of chloroform for a necessary surgical operation." They, however, added a rider recommending "that in all operative cases of a serious nature anæsthetics should be administered either by a staff anæsthetist or by a resident under his immediate supervision; further, that full statistical tables as to anæsthetics should be kept by the authorities of Guy's Hospital." They also found that no blame attached to Mr. Digby who gave the anæsthetic.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Oct. 26th, 1829.

CLAIMS OF THE AMERICANS TO THE DISCOVERY OF THE ERGOT OF RYE.

To the Editor of THE LANCET.

SIR,—At page 74 of your last journal, amongst other observations of Dr. Wetherill, is the following: "The use of ergot, in hastening the process of labour, was originally made known to the public by a citizen of New York, Dr. Stearns. It was Dr. Hosack, my late preceptor, of the same city, who first suggested its use, and gave the ergot to arrest uterine hæmorrhage. It has been said that the *candle* was originally lit in Italy, but if so, why was its light kept under a bushel?"

While, Sir, our Transatlantic brethren have sent forth such works as Dewees' Midwifery, Beck's Medical Jurisprudence, Chapman's Therapeutics, and Barton's and Bigelow's Medical Botany, it ill becomes any medical man to depreciate their labours; but Jonathan, as we all know, is a creature who cannot bear too much caressing; we must not then allow him to shine in borrowed plumes; and I, therefore, contradict Dr. Wetherill's assumptions, through the same medium that he has communicated his mistaken impressions. The fact is, that the first notice that occurs of spurred rye as a uterine remedy was in the year 1688, when Camerarius stated that the women, in certain parts of Germany, were in the habit of employing it to accelerate parturition. From that period till 1774, no author had made mention of its being used; and it was then that a very brief letter from Parmentier to the editor of the *Journal de Physique*, made known that it was frequently given as a child-bed remedy by Madame Depelle, a midwife at Chaumont, in the Vexin. But this letter, which is a mere announcement of the fact, contained no other information. It was reserved for M. Desgranges to make known more fully the singular property of ergot. Having met with several midwives, in 1777, both in Lyons and its environs, who from a traditionary knowledge were accustomed to employ it with no little mystery, he at length made trials of it, which for the most part were crowned with success. He published at different times, and in various journals, the results of his practice, and specified the peculiar circumstances which he conceived admitted or contra-indicated the employment of this remedy. It is therefore to the zeal and knowledge of Desgranges that the world is indebted for a precise acquaintance with this valuable remedy, which he propagated, with all his talents, against the strongest prejudice. When this discovery was first announced, it was only employed in the department of the Rhone and some of the frontier departments. Soon afterwards, its use began gradually to spread from various points throughout the kingdom, as may be proved by the numerous cases published in periodical works, by different practitioners. According to Dittmer, it has long been used in Germany, particularly in the environs of Ludwisbourg in Wirtemberg, where it was principally in the hands of the midwives, who usually gave it whole in its natural state, administering either five or nine grains for a dose, but always superstitiously in odd numbers.

Now, Sir, I think that the Americans, after this statement, must give up all claims to priority of discovery; for it was not till the year 1807, that Dr. Stearns, of New York, made known his views of its peculiar property to the public of America. Dr. Bigelow announcing in No. 2, vol. 5, of the New England Journal of Medicine and Surgery, that Dr. S. was ignorant of its ever being so employed in Europe; and, continues Dr. Bigelow, "It is to the best of our knowledge, an exclusively American practice; and if it is now introduced into any part of Europe, it must be from the publications of this country."

I should feel much inclined to re-model this sentence, and say, that "if it be used in America, it must be from the publications of our continental neighbours."

I may be wrong in this conjecture, and happy should I be were I proved so; as a discovery of the properties of ergot, whether accidental or from a long train of well-digested reasoning, on the continent of America, agreeing so completely with the results of its administration in Europe, would give additional weight to the currency of opinions in its favour, as an agent capable of accelerating the parturient efforts of the uterus.

I am, Sir,
Your obedient servant,
JAMES MORSS CHURCHILL,
F.L.S., M.R.C.S., &c.

London, Oct. 12, 1829.

Vide "Looking Back" in THE LANCET of Oct. 12th, 1907, p. 1042.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF INSPECTORS OF THE MEDICAL DEPARTMENT OF THE LOCAL GOVERNMENT BOARD.

On the Sanitary Circumstances and Administration of the Borough of Yeovil, by Dr. THEODORE THOMSON.[1]—This Somersetshire borough, as enlarged by a recent extension of boundaries, has a population of some 11,500. It is a market town of some importance but its chief industry is glove making, which affords employment to about 3000 of the inhabitants of the town as well as to large numbers of persons in the rural neighbourhoods adjacent. Dr. Thomson draws attention to the serious increase of diphtheria which occurred in this borough in 1905 and 1906. In the latter year 49 cases were notified and 11 deaths occurred from this disease. The accommodation at the local fever hospital is not only poor in quality but also inadequate in amount. Owing to concurrent prevalence of scarlet fever it was found impracticable to take any cases of diphtheria into the hospital in either year. This deficiency in hospital accommodation appears seriously to have hampered the medical officer of health, Dr. H. M. Page, who, since his appointment in 1904, has organised a thorough system of dealing with infectious diseases in the borough. Where infection has occurred in a dwelling occupied by an "outworker" material in the house is not returned to the factory without previous disinfection, and factories are requested to send no more material to the house until notified that the premises are no longer infected. In these circumstances an adequate isolation hospital becomes specially desirable in the interests of the working population of the place. In February, 1907, all school children were medically examined

[1] London: Wyman and Sons, Fetter-lane; Edinburgh: Oliver and Boyd; Dublin: E. Ponsonby. No. 274. Price 3*d*.

with a view to the detection of suspicious cases and 39 children were discovered who presented signs of suspicious throat affection. Since the early part of 1906 diphtheria antitoxin has under certain conditions been supplied gratuitously by the town council to medical practitioners in the borough. Sewage disposal at Yeovil has given rise to considerable difficulty. The sewage works are new, having been completed only four years ago. They provide for septic tank treatment followed by double filtration over primary and secondary contact beds. The effluent from these filter beds is further treated by land irrigation before passing into the River Yeo. It has been found that the volume of sewage is greatly augmented by the quantity of subsoil water which leaks into the sewers and a further source of trouble is occasioned by the trade effluents from glove factories. These are liable to be very foul by reason of the large amount of organic matter removed from skins in the process of preparation. At one stage the skins are submitted to a "puring" bath (the essential constituent of which is dogs' excrement), which also contributes to the foulness of the trade waste. The principal difficulty, however, arises from the hair and wool removed from the skins and from lime which is used in one of the stages of the glove-making process. These constituents of the sewage have been found to cause rapid silting up of the septic tanks in which large accumulations of sludge take place. The hair and wool may pass through the tanks and may be deposited on the filters, thereby reducing their working capacity. In these circumstances new schemes for dealing with trade effluents are being considered by the town council.

On the Sanitary Circumstances and Administration of the Borough of Morley, by Dr. J. SPENCER LOW.[2]—Morley is a borough adjoining Leeds, with a population of about 25,000. Of 7689 males (aged ten years and upwards), at the census of 1901, 1572 were classified as coal miners, 630 as stone workers, and 1919 were employed in wool and worsted manufacture. Some 3000 females are also engaged in the latter occupation. From the sanitary point of view the most conspicuous and objectionable features of Morley are its back-to-back houses and its privy middens. These two structures are present almost everywhere in the town and no amount of opposition on the part of expert advisers appears to have shaken the tolerance, if not the affection, with which they seem to be regarded by the inhabitants and by the town council of the place. Attempts have been made to improve new rows of back-to-back houses by by-laws limiting the length of the blocks, and requiring air shafts in all upper storeys and windows in the wall of each storey but they do not appear to have had very satisfactory results in practice. The space which the by-laws require to be left between the blocks is utilised for privy middens and the ventilating shafts, if provided, are frequently blocked up by the inhabitants. Many of the houses are dilapidated and Dr. Low gives instances of gross overcrowding in several dwellings. The number of closets in connexion with private houses in the borough is given as pedestal water-closets, 820; midden privies, 2581; and pail privies and trough closets, 52. Many of the middens have pervious walls and floors. The latter are sometimes as much as two feet below the ground level. The floor area of one midden, receiving the contents of six privies, was 168 square feet. Flies abound in and about these middens in hot weather. A local Act, obtained in 1905, empowered the town council to insist on the erection of water-closets for new houses and to effect the "conversion" of existing midden privies. But comparatively little advantage has been taken of these powers. New dwellings are still in some instances allowed to have midden privies and the amount of "conversion" which has taken place since the Act came into force is almost negligible. One reason for the local preference for middens appeared to be that there is a considerable local demand for night soil from these receptacles for manuring land used in the cultivation of rhubarb and from 1*s.* to 1*s.* 9*d.* a load is obtained for it at farms in the vicinity. The report gives a series of tables relating to the prevalence of various diseases in Morley during the past ten years and their fatality. Enteric fever is endemic in the place; between 20 and 112 cases have been notified every year since 1897. The zymotic death-rate is high and has not exhibited the decline which has been shown in other towns of comparable size. The infantile mortality during 1897–1906 has been 158 for the borough as a whole and higher than this in particular wards. The data available did not permit conclusions to be drawn as to the effect of the employment of mothers at factories on the infant mortality-rate. In describing the results of inquiries into recent cases of enteric fever Dr. Low is able to give some striking instances of the occurrence of groups of cases, month after month, in houses belonging to the same block or otherwise having in common the same yard and the same middens. Such localised prevalence of enteric fever is little to be wondered at in view of the numerous opportunities which exist for the pollution of soil in the neighbourhood of the dwellings and of the frequency with which persons attacked by this disease remain in their overcrowded homes during their illness. Dr. Low insists that so long as the present conditions exist there is no prospect that Morley will cease to have a high incidence of, and mortality from, enteric fever, diarrhœa, and other diseases after each dry, hot summer. He gives a number of extracts from past reports of the medical officer of health and of inspectors of the Local Government Board, which show that the conditions referred to remain in spite of strong representations from competent sanitary authorities. It is to be hoped that the Local Government Board will find some means of securing a more satisfactory result in the case of this latest exposition of the mismanagement of sanitary affairs in this borough.

[2] Ibid., No. 275, price 8*d.*

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 7834 births and 4829 deaths were registered during the week ending Oct. 19th. The annual rate of mortality in these towns, which had been equal to 14·5, 14·8, and 15·7 per 1000 in the three preceding weeks, was again 15·7 per 1000 last week. During the first three months of the current quarter the death-rate has averaged 15·4 per 1000, the rate in London during the same period being 13·9 per 1000. The lowest death-rates in the 76 towns last week were 5·2 Hornsey, 8·3 in Walthamstow and in Bournemouth, 8·4 in Reading, and 8·7 in Willesden and in Handsworth (Staffs.); the highest rates were 22·6 in St. Helens, 23·1 in Southampton, 23·7 in Stockton-on-Tees, and 24·6 in Liverpool and in Burnley. The 4829 deaths in the 76 towns last week were ten fewer than the number in the previous week, and included 747 which were referred to the principal epidemic diseases, against 786, 892, and 882 in the three preceding weeks; of these 747 deaths 494 were attributed to diarrhœa, 75 to whooping-cough, 54 to scarlet fever, 50 to measles, 47 to diphtheria, and 27 to "fever" (principally enteric), but not any to small-pox. No death from any of these epidemic diseases was registered last week in Hornsey, Hastings, Bournemouth, Devonport, Handsworth (Staffs.), Kings Norton, Derby, or West Hartlepool; the annual death-rates therefrom ranged upwards among the other large towns to 5·3 in Wigan, 5·4 in Hanley, 5·7 in Stockport, 5·8 in Rotherham, 5·9 in Oldham, and 6·0 in Walsall and in West Bromwich. The deaths from diarrhœa, which had been 660 and 634 in the two previous weeks, further declined to 494 in the week under notice, the highest death-rates from this disease being 4·0 in Oldham, 4·1 in West Ham, 4·2 in Sheffield, 4·6 in Stockport, 4·7 in Hanley, and 5·8 in Rotherham. The fatal cases of whooping-cough, which had been 91, 68, and 70 in the three preceding weeks, rose again to 75 last week and caused death-rates ranging upwards to 1·1 in Walsall, in Bolton, and in Oldham, and 1·8 in South Shields. The deaths from scarlet fever, which had risen from 26 to 48 in the five preceding weeks, further increased to 54 in the week under notice; the greatest proportional mortality from this disease was at the rate of 1·1 per 1000 in St. Helens, 1·5 in West Bromwich, and 2·0 in Burton-on-Trent. The fatal cases of measles, which had been 35 and 43 in the two previous weeks, further rose last week to 50; the death-rate from this cause ranging upwards to 1·3 in Newcastle-on-Tyne, 1·9 in Cardiff, 2·0 in Stockton-on-Tees, 2·1 in Ipswich, 2·9 in Burton-on-Trent, and 3·8 in West Bromwich. The deaths from diphtheria, which had been 70 and 65 in the two previous weeks, further decreased to 47 in the week under notice, and included 13 in London, four in Manchester, three in Liverpool, in Salford, and in Portsmouth, and two in Birmingham and in Bradford. The 27 fatal cases of "fever" exceeded the number recorded in any previous week during the

past six months; the highest death-rate last week from this cause was 1·5 per 1000 in Grimsby. The number of scarlet fever patients under treatment in the Metropolitan Asylums Hospitals, which had shown a continuous increase from 2658 to 4752 in the 23 preceding weeks, had further risen to 4995 at the end of last week; the new cases admitted during the week numbered 820, against 787, 759, and 752 in the three preceding weeks; these numbers greatly exceed the admissions in any previous four weeks. The deaths in London referred to pneumonia and other diseases of the respiratory system, which had risen from 116 to 175 in the six preceding weeks, declined again to 167 in the week under notice, and were 56 below the corrected average number in the corresponding periods of the five years, 1902–06. The causes of 38, or 0·8 per cent., of the deaths registered in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, West Ham, Bradford, Newcastle-on-Tyne, and in 51 other of the 76 towns; seven uncertified deaths were registered in Birmingham, four in in Liverpool, three in Manchester, in Sheffield, and in Gateshead, and two in Portsmouth, in Preston, and in Birkenhead.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been equal to 13·2 and 13·8 per 1000 in the two preceding weeks, further rose to 14·0 per 1000 in the week ending Oct. 19th, but was 1·7 per 1000 below the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 11·7 in Aberdeen and 12·8 in Edinburgh to 19·8 in Dundee and 24·0 in Perth. The 486 deaths in these towns last week exceeded by seven the number in the previous week, and included 61 which were referred to the principal epidemic diseases, against 57 and 81 in the two preceding weeks. These 61 deaths were equal to an annual rate of 1·8 per 1000, which was 0·6 per 1000 below the mean rate during the same period in the 76 large English towns; they included 26 which were referred to diarrhœa, 10 to "fever," eight to measles, eight to diphtheria, six to whooping-cough, and three to scarlet fever, but not any to small-pox. The deaths from diarrhœa, which had been 23 and 37 in the two preceding weeks, declined again to 26 in the week under notice, and included 14 in Glasgow, four in Dundee, three in Edinburgh, and two in Paisley. The fatal cases of "fever," which had been six, eight, ten, and 11 in the four preceding weeks, numbered ten last week, and included seven which were attributed to cerebro-spinal meningitis; four of these occurred in Glasgow, two in Leith, and one in Edinburgh. The deaths from measles, which had been two and nine in the two preceding weeks, declined again to eight in the week under notice, and included four in Glasgow and four in Dundee. The fatal cases of diphtheria, which had been two, three, and seven in the three preceding weeks, further rose last week to eight, of which three were registered in Glasgow and two in Paisley. The deaths from whooping-cough, which had been 15, 17, and 15 in the three preceding weeks, fell to six last week, and included three in Glasgow. The deaths in these eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 65 and 51 in the two previous weeks, rose again to 71 in the week under notice, but were 26 below the number in the corresponding period of last year. The causes of 16, or 3·2 per cent., of the deaths registered in these towns last week were not certified or not stated; in the 76 large English towns the proportion of uncertified deaths did not exceed 0·8 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 18·6, 21·0, and 20·2 per 1000 in the three preceding weeks, was 20·3 per 1000 in the week ending Oct. 19th. During the first three weeks of the current quarter the death-rate has averaged 20·5 per 1000, the rate during the same period being 13·9 in London and 13·0 in Edinburgh. The 152 deaths of Dublin residents registered during the week under notice were one in excess of the number in the previous week, and included 19 which were referred to the principal epidemic diseases, against 22, 18, and 30 in the three preceding weeks; of these, 15 resulted from diarrhœa, two from whooping-cough, one from scarlet fever, and one from "fever," but not any from small-pox, from measles, or from diphtheria. These 19 deaths were equal to an annual rate of 2·5 per 1000, the death-rate last week from the principal epidemic diseases being 1·8 in London and 0·9 in Edinburgh. The fatal cases of diarrhœa, which had been 17, 12, and 23 in the three preceding weeks, declined again last week to 15, while the two deaths from whooping-cough were equal to the number in the preceding week. The 152 deaths from all causes included 44 of children under one year of age and 29 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the previous week, while those of elderly persons showed a decline. Five inquest cases and five deaths from violence were registered; and 65, or 43 per cent., of the deaths occurred in public institutions. The causes of four, or 2·6 per cent., of the deaths registered in Dublin last week were not certified; in London all the causes of death were duly certified, while in Edinburgh the proportion of uncertified deaths was 4·7 per cent.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeon H. Clift to the *Cyclops* on commissioning; Staff-Surgeon E. R. Grazebrook to the *Dido*.

We understand that at the forthcoming examination for commissions in the Royal Navy Medical Service, to be held on Nov. 11th, 15 vacancies will be filled by successful candidates. It is necessary that intending candidates should apply at an early date to the Medical Department of the Royal Navy.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Reginald J. Windle is seconded whilst holding the appointment of physician and surgeon at the Royal Hospital, Kilmainham (dated Oct. 1st). Lieutenant-Colonel Frederick S. Heuston, C.M.G., from the Seconded List, to be Lieutenant-Colonel (dated Oct. 1st). Lieutenant-Colonel George H. Sylvester retires on retired pay (dated Oct. 19th). Captain Thomas Biggam is placed on temporary half-pay on account of ill-health (dated Oct. 18th). Lieutenant J. M. Jones has been appointed Principal Medical Officer to the forces in Egypt, vice Colonel J. Magill, C.B. Major R. C. Thacker, at Karachi, and Major H. E. Winter, at Bombay, have been appointed for duty in connexion with the embarkation and disembarkation of troops and invalids during the season 1907–08.

VOLUNTEER CORPS.

Rifle: 3rd Volunteer Battalion the South Staffordshire Regiment: Supernumerary Surgeon-Major (Honorary Captain in the Army) C. A. MacMunn (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, Staffordshire Volunteer Infantry Brigade), to be Surgeon-Lieutenant-Colonel, remaining supernumerary (dated May 28th, 1907). 2nd Volunteer Battalion the East Lancashire Regiment: Surgeon-Lieutenant R. L. FitzGerald to be Surgeon-Captain (dated Sept. 18th, 1907). 2nd Volunteer Battalion, the East Surrey Regiment: Supernumerary Surgeon-Lieutenant-Colonel and Honorary Surgeon-Colonel W. Gandy (Brigade Surgeon-Lieutenant-Colonel, Senior Medical Officer, East Surrey Volunteer Infantry Brigade), resigns his commission, with permission to retain his rank and to wear the prescribed uniform (dated Sept. 1st, 1907). 13th Middlesex (Queen's Westminster) Volunteer Rifle Corps: Surgeon-Major P. P. Whitcombe is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated August 6th, 1907). 1st Volunteer Battalion the Manchester Regiment: Andrew Edward Hodder to be Surgeon-Lieutenant (dated Sept. 24th, 1907). 4th Volunteer Battalion the Durham Light Infantry: Surgeon-Captain T. Benson is retired, under the conditions of paragraph 103, Volunteer Regulations (dated Sept. 26th, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Scottish Command: Glasgow Companies: Lieutenant R. Y. Anderson to be Captain (dated Oct. 15th, 1907). Western Command: Manchester Companies: Captain Harold P. W. Barrow, R.A.M.C., to be Adjutant, vice Captain R. W. Clements, R.A.M.C., whose tenure of that appointment has expired (dated Oct. 12th, 1907). East Surrey Bearer Company: George Alfred Edsell (formerly Surgeon-Captain, 2nd Volunteer Battalion the Oxfordshire Light Infantry) to be Captain (dated Sept. 25th, 1907).

MEDICAL STORES FOR SHIPS UNDERGOING STEAM TRIALS.

Medical stores for ships undergoing steam trials are now supplied from the respective naval hospitals instead of from the barracks, as heretofore, and the two sets of surgical instruments, which were formerly kept for loan to ships during trials, have been returned to the naval hospitals. These two sets of surgical instruments, together with two medicine chests and two emergency surgical dressing chests, are held at the naval hospitals in readiness for immediate issue for the purpose, and the medical officer detailed for the trial is held responsible that the stores are on board the ship before the trials commence.

HYGIENE IN THE ARMY.

The first of a series of lectures on hygiene and sanitation was given at the Raglan Barracks, Devonport, on Oct. 14th, when Lieutenant-Colonel Robert Caldwell, R.A.M.C., gave an interesting address on Food. There was a numerous attendance and amongst those present were Major-General Sir John Leach, K.C.V.O., commanding Plymouth Coast Defences, and Lieutenant-Colonel F. S. Maude, C.M.G., D.S.O. The lecture was repeated at the Drill Hall Citadel, Plymouth, on Oct. 17th, and on Oct. 19th at the Crownhill Schoolroom. On Oct. 21st a lecture was given on Water.

The *Broad Arrow* announces that the new military hospital, the Alexandra, which has been built on the southern slope of Portsdown Hill, above Cosham, is to be opened for use in November.

An examination of candidates for not less than 30 commissions in the Royal Army Medical Corps will be held on Jan. 30th, 1908, and following days. Applications to compete should be made to the Secretary, War Office, London, S.W., not later than Jan. 20th next, on which date the list will be closed. The presence of candidates will be required in London from Jan. 28th.

Correspondence.

"Audi alteram partem."

THE NEEDS OF LONDON MEDICAL STUDENTS.

To the Editors of THE LANCET.

SIRS,—A vacancy having arisen in the representation of the Faculty of Medicine on the Senate of the University of London, Professor E. H. Starling, F.R.S., has become a candidate and has circulated a statement setting forth the grounds upon which he seeks support. That Professor Starling is distinguished in science, capable in organisation, and, what is of at least equal importance at the present juncture, a man who knows his own mind, will be admitted by everyone; but these personal qualities ought not to prevent any elector from subjecting his programme to critical analysis.

London, as a centre of medical study, has two great needs—a degree readily accessible to all her students and a proper systematisation of the teaching of the preliminary and intermediate subjects. It is a scandal that an examination of the standard of the Conjoint Board Final should not entitle a successful candidate to be called, except by courtesy, doctor. It is equally true that the teaching of the preliminary and intermediate medical subjects in London is wasteful both as regards force and money. Both these evils have been fostered and maintained by the action of the Senate of the University of London since the reconstitution of that body. This has been publicly demonstrated by Dr. W. H. Allchin—himself for ten years a member of the Senate—in his inaugural address at King's College on Oct. 1st of this year. The next day Sir William Gowers at the University College Hospital dinner made an eloquent appeal to the University to throw open its medical degrees, under proper conditions, to holders of the Conjoint diploma. There is thus at last some hope that leaders of the profession are beginning to realise the chief needs of the London medical student and diplomate and the true inwardness of the depletion of the London medical schools.

What is Professor Starling's attitude towards these two vital questions? He expresses a pious hope that the London medical degree may become more accessible to students. And he adds a few nebulous platitudes—remarkable in a man so distinguished as a clear thinker—regarding the relations between the University and the medical schools. But if he is vague upon this matter he is definite enough on the other great question. Here he is the frank exponent of a policy which has recently received two open defeats in the faculty which he seeks to represent. Even as the word metabolism overshadows much that is uncertain and obscure in the science of physiology so does concentration hang like a dark cloud over the intellects of many who are responsible for the present policy of the University. The facts are simple enough. When the University was reconstituted there was a general feeling in the London medical schools in favour of the establishment of a university centre at South Kensington for teaching the preliminary and intermediate subjects. An appeal was made for £375,000; of this huge sum £70,000 have been obtained mainly from one source. In the meantime many of the medical schools have realised the impracticability of the original scheme and have abandoned it in favour of the alternative of teaching these subjects in a few institutions in the principal quarters of the metropolis. The University has also been compelled to realise that its plan cannot be carried out, but the Senate does not appear to possess the moral courage to admit this once and for all and to return the money. It is compelled, therefore, to cast about for some means of spending it and to this end proposes to build a new *small* institute at South Kensington. It is obvious that whereas the original institute would have been intended to replace present preliminary and intermediate schools the one now suggested would simply act as a rival and a competitor. It is as if, in order to systematise the complicated network of railways with London termini, it had been proposed to build an enormous new central station, and when this had been found impracticable the alternative had been adopted of setting up a smaller one at South Kensington necessitating the laying down of new lines, the development of new machinery, and an increased complication instead of a simplification of the traffic problem.

Those who support Professor Starling may therefore be clear as to the course he will pursue in this matter; whereas in the other, and more important, they will have to be satisfied with his benevolent aspirations. His election would strengthen the party of reaction in their efforts to fossilise the University.

I am, Sirs, yours faithfully,

Welbeck-street, W., Oct. 22nd, 1907. BERTRAM ABRAHAMS.

THE FREQUENCY OF CHILD-BEARING AT A LATE AGE.

To the Editors of THE LANCET.

SIRS,—The usual standard for calculating the legitimate birth-rate is the number of married women between the ages of 15 and 45 years. The adoption of the higher age limit (45 years) presupposes that child-bearing has ceased by that time. Duncan in "Sterility in Women" (p. 27, ed. 1884) states that child-bearing ceases between the thirty-sixth and forty-first years. I find, however, that in 1855 a considerable number of children were born of Scotch mothers aged from 50 to 55 years, and the Swedish returns indicate that child-bearing continues for some years after the term set by Duncan. I have been searching through the books at my disposal but have been unable to find any evidence as to the frequency of child-bearing by English mothers at those late ages. I venture therefore to appeal to your readers to furnish me with any figures, or references to any figures, which will enable me to arrive at an estimate of the frequency of child-bearing by women aged from 45 to 50, and 50 to 55 years.—I am, Sirs, yours faithfully,

REGINALD DUDFIELD, M.B. Cantab., F.S.S.,

Blomfield-road, Maida Vale, W., Oct. 21st, 1907.

ETHER INHALATION IN PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—Permit me to refer, somewhat late, to the correspondence of Dr. R. H. Hodgson in THE LANCET of Sept. 14th, p. 794, in which he suggests the use of sulphuric ether by inhalation for the treatment of pulmonary consumption. The same suggestion was made by Pearson in 1794, in his "A Short Account of the Nature and Properties of Different

Kinds of Air," London, 1794, p. 24. Verily there is nothing new under the sun! I am, Sirs, yours faithfully,

H. J. ACHARD.

The Winyah Sanitarium, Asheville, North Carolina, U.S.A., Oct. 9th, 1907.

MOBILE KIDNEY: OPERATION FOR ANTERIOR NEPHROPEXY.

To the Editors of THE LANCET.

SIRS,—The letter from Dr. Earl Harlan of Cincinnati, Ohio, in THE LANCET of Oct. 12th, p. 1048, makes it undoubtedly plain that to him belongs the merit of priority in the proposal to fix the kidney from the front as well as to give that organ support from below and to close the sub-peritoneal pocket into which it falls. I hasten to congratulate him upon the fact and to disavow entirely any desire to deprive him of his rights as a pioneer, whilst at the same time I must plead entire ignorance of his paper prior to my own operations. I might, perhaps, lay some little stress upon the differences in technique to which he refers in his very courteous note and express my own preference for my own proceeding, but that may naturally be taken for granted and has besides no bearing upon the point in which he is interested. I can only regret that my opportunities for research through the literature of the subject did not include the *Cincinnati Lancet-Clinic*, which unfortunately is not included in the list of journals subscribed for by the three medical libraries to which I have access.

Permit me also to assure him from my own experience of the fair and generous action of my surgical *confrères* on this side the Atlantic that he has no need to fear any "blind stupidity of unthinking opposition." British surgeons, so far as I know them, and I have the honour and pleasure of the acquaintance of most of them, are only too keen to welcome any real advance in surgical methods, and, so far as I am concerned, I have met with nothing but kindly appreciation far beyond any small deserts of my own. I am certain that his experience here will be the same.

I am, Sirs, yours faithfully,

Manchester, Oct. 19th, 1907. E. STANMORE BISHOP.

EVIDENCE AT INQUESTS.

To the Editors of THE LANCET.

SIRS,—In the interest of the profession I beg to bring before your notice the way in which I have been served by Mr. Troutbeck, coroner for Westminster Division, and herewith inclose his reply to my letter. On Saturday last I was summoned by the stationmaster at the Bond-street station on the Central London Railway to see a man who was taken suddenly ill on their premises. I attended at once and found the man had died suddenly. I gave my card to the police constable who took charge of the body to give to the coroner's officer with an intimation that I should be prepared to give evidence of death or make a necropsy if required. I heard nothing further of the matter until I saw the account of the inquest in a daily paper and that another medical man had been called in to make the necropsy. I wrote to the coroner then, explaining that I had been the first and only person who saw the deceased and politely asking for what reason I was passed over and another man called in.

I lay this matter before you in the hope that it may be the means of preventing such treatment to some other colleague at some future time.—I am, Sirs, yours faithfully,

WM. PERCY JONES, L.R.C.S. Irel., &c.

Oxford-street, W., Oct. 18th, 1907.

The following is the text of Mr. Troutbeck's letter to Mr. Jones:—

Phillimore Chambers, 21, Great Smith-street, Westminster, S.W., Oct. 17th, 1907.

DEAR SIR,—In reply to your letter to me of yesterday's date the circumstances you mention do not confer upon you any right to make an autopsy. It is clear law that these duties are in no way proprietary.

Yours faithfully,

Dr. Jones. J. TROUTBECK.

*** Our views upon the attitude adopted by Mr. Troutbeck towards the medical profession with regard to their giving evidence at inquests have been expressed so frequently and so plainly upon other occasions that no repetition of them is necessary here. In the case which Mr. Jones describes, however, he is not a witness clearly indicated by the Coroners Act, 1887, Sec. 21, as having attended the deceased "at his death," for apparently death took place before Mr. Jones arrived. On such occasions the section says that the coroner "may summon any legally qualified medical practitioner who is at the time in actual practice in or near the place where the death happened," and that the witness so summoned may be asked to express an opinion as to how, in his opinion, the deceased came to his death, and may also be directed by the coroner to make a post-mortem examination before giving his evidence. Mr. Jones, as a medical man who had seen the body of the deceased immediately after his death, was clearly a witness who might have been able to give important evidence bearing upon the cause of it. It would also have been reasonable and proper, as well as courteous, to have directed him to make a post-mortem examination, for then, if, according to his evidence, the post-mortem examination had borne out the symptoms observed immediately after death proof would have been complete. A verdict based on the post-mortem examination only where other evidence is to be had as well is clearly not one founded upon the best proof obtainable as to the matter inquired into. However, Mr. Troutbeck is no doubt correct in his statement where he informs Mr. Jones that the circumstances mentioned by him did not confer upon him any *right* to make a necropsy, although we are entitled to express the opinion that it would have been courteous to have employed him and that in conceivable circumstances his evidence as a witness present immediately after death might have been of considerable importance.—ED. L.

THE LONDON PROVIDENT DISPENSARIES COUNCIL.

To the Editors of THE LANCET.

SIRS,—Public attention has been frequently drawn of late years to the overcrowded state of the out-patient departments of our hospitals. Not only does this overcrowding put a great strain upon the resources of the hospitals and cause delay in the treatment of patients but, what is of far more importance, it implies that many persons who are well able to provide for themselves seek free medical relief at the hospitals for comparatively trifling ailments. Their sense of personal responsibility is diminished and the hospitals are put, however unintentionally on their part, into competition with the local medical practitioners. The only means of effectually combating this evil lies in coöperation between the hospitals and provident dispensaries. A provident dispensary places efficient medical attendance within the reach of those wage-earners who, though they may be unable to pay ordinary medical fees, are yet not poor enough to justify them in seeking free medical treatment. A provident dispensary properly so-called should have a membership on the basis of regular payments on insurance principles, a reasonable wage-limit being fixed as a condition of membership, and its medical staff should be sufficient in number to preclude the suggestion that it is established for the benefit of one or two practitioners. It should, moreover, be managed by a committee upon which the medical staff should be represented, and a properly audited balance-sheet should be published annually.

While there exist in various parts of London many excellent dispensaries established upon the principles I have indicated, they are not sufficiently numerous or well distributed to be able to undertake the treatment of the respectable and provident poor of the whole of the metropolis. In these circumstances the London Provident Dispensaries Council has been lately formed as the outcome of a conference of the provident dispensaries of London. Its objects are to circulate information on the provident medical movement among the medical profession and the public at large and to promote the establishment over the whole area of London of well-equipped and well-regulated provident dispensaries. It will endeavour, while promoting the independence and individuality of existing provident dispensaries, to promote coöperation between them and to afford opportunities for comparing their methods of administration. It will

also endeavour to promote that coöperation between provident dispensaries and hospitals which is essential for the relief of the out-patient departments of the latter institutions. Every provident dispensary of London has been asked to send a representative, medical or lay, to the Council, and it is intended to add a few coöpted members, including nominees of the British Medical Association.

It is hoped that all those who are interested in existing dispensaries and all who desire to encourage habits of thrift and self-reliance among the poor will endeavour to further the objects of the London Provident Dispensaries Council. Further information will be gladly supplied by the honorary secretary, Charles H. Warren, and may be obtained at the temporary offices of the council at 5, Lamb's Conduit-street, W.C.—I am, Sirs, yours faithfully,

H. A. HARBEN,
Chairman, London Provident Dispensaries Council.

Oct. 17th, 1907.

THE CLOSING OF MEDICAL LIBRARIES.

To the Editors of THE LANCET.

SIRS,—With reference to your leading article of Saturday's date on the Closing of Medical Libraries it is perhaps as well to point out that the shutting of this library and of the Royal Medical and Chirurgical Society's library at the same time is quite exceptional. They have been undergoing structural alterations and we have been re-painting (for the first time in our case in about 20 years). As a rule they are open in September, when we are closed, and we are open in August, which is their close time.

I am, Sirs, yours faithfully,

VICTOR G. PLARR,
Librarian, Royal College of Surgeons of England.

Oct. 21st, 1907.

THE INTERNATIONAL CONFERENCE ON TUBERCULOSIS.

(FROM OUR VIENNA CORRESPONDENT.)

THE Sixth International Conference on Tuberculosis was held in Vienna from Sept. 19th to 21st and was a great success in every way. Not only as regards the number of men of science present but also from the point of view of organisation and the material dealt with during these three days it may be safely said that good work has been done by good men. There were representatives from nearly all civilised countries, those from England being Professor W. R. Smith (London), Professor G. Sims Woodhead (Cambridge), and Dr. Williams and Dr. Nathan Raw (Liverpool). The official representatives of the Austrian Government included the chiefs of the medical departments of both the army and the navy, as well as the heads of the various departments of hygiene of the Ministry of the Interior. The Archduke SALVATOR, sent by his uncle the Emperor Francis Joseph, under whose patronage the conference was held, opened the proceedings in the spacious hall of the University on the forenoon of Sept. 19th. The Vice-President of the International Association for the Prevention of Tuberculosis, Professor VON SCHRÖTTER, then expressed much gratification at the presence of so many visitors from all parts of the world, and after the usual speeches by the representatives of the various learned societies, including telegrams from the President of the Association and several Princes and Ministers, the Austrian Minister of the Interior, Baron BIENERTH, welcomed the conference in the name of the Government. In the course of his remarks the Minister enumerated the endeavours which have been made by the official authorities to combat the disease, as, for instance, by instructions issued to the public, by popular lectures, by improvements in the social condition and housing of the lower classes, and by insurance against sickness. He finally wished the conference much success in its work and hoped that its aim might be, "Saluti publicæ, solatio ægrorum."

The practical work of the conference was commenced an hour later in a smaller hall of the University. By an understanding amongst the members, arrived at after some deliberation, it was resolved to divide the proceedings of the conference into three well-defined parts—namely, (1) the channels of infection; (2) the notification of pulmonary tuberculosis; and (3) the cost of sanatoriums. A discussion on the first of these subjects was opened by Dr. WEICHSELBAUM, professor of morbid anatomy in the University of Vienna. In his address, which lasted about two hours, he said that there was no unanimity of opinion as to the channels of infection and that there were two large groups of men of science in favour respectively of the "inhalation theory" and of the "food theory." In the first-mentioned theory it must be assumed that the exhaled air was charged with the bacilli and came through inhalation into the bronchi, bronchioli, and pulmonary alveoli, whilst the second one assumed that the bacilli were carried into the buccal or nasal cavity by food, by kissing, by touching the mucosa with dirty fingers, and in other ways, and that they afterwards entered the adjacent lymphatic glands or the intestinal canal. Traumatic infection was also possible if tubercle bacilli gained admission into lesions of the integument or any other part of the body. This latter mode of infection was, however, rather rare, whilst in regard to the frequency of the other two ways opinions were divided. The reaction of the glands against the infection was variable—sometimes the bacilli were killed, sometimes the gland offered a good medium for their development, and it was never possible to judge from the localisation of the lesion where the original invasion had taken place. Statistical data were not trustworthy in this respect, but it had been undoubtedly proved that infection by inhalation did take place, although not so often as through the intestines, nose, and mouth. A special feature was the frequency of tuberculous infection in childhood, which might be accounted for by the "dirt and smear infection," as children not only often played in the sand or on the floor where dust and dried sputa abounded, but were prone to put their dirty fingers into their mouths much oftener than grown-up persons. The overwhelming frequency of tuberculosis of the lungs and bronchial glands was perhaps due to a specially lowered resistance of these organs, or perhaps the glands along the upper tract of the alimentary canal in course of time lost their power of destroying tubercle bacilli. The fact that early tuberculosis was localised at the apices of the lung did not give any clue to the problem. The existing uncertainty as to the mode of infection must not, however, influence prophylactic measures. Whatever might be the channel of infection it must be the aim of the medical profession to prevent the entrance of the bacilli into the body and to increase the resistance offered by it to the disease.

The animated discussion which followed this address served only to prove that the diversity of opinion on the subject is just as pronounced now as it was at the last conference, when a motion was adopted to the effect that it was necessary to ascertain by what channels infection entered the body.

Professor FLÜGGE (Breslau), the champion of the inhalation theory, maintained that whilst it was possible to infect animals with minute quantities of bacilli introduced by means of inhalation it was only with difficulty possible to infect them with food mixed with tuberculous material. The inhalation method was nearly as active as a subcutaneous injection of the bacilli, whilst it was even quicker in making the animal ill. In infecting animals by means of ingested material inhalation was never excluded. Infection through the alimentary canal required such enormous quantities of bacilli that it must be regarded as rare. But the droplets of tuberculous sputum which were produced by coughing were responsible for many infections; tuberculous dust was not so dangerous. Inhalation was therefore regarded by Professor Flügge as the most active source of tuberculosis of the lung.

Professor B. FRÄNKEL (Berlin) spoke on the subject of Tuberculosis of the Upper Respiratory Tract. He said that primary tuberculosis of the mouth, larynx, pharynx, and tonsils had been observed, so that infection by inhalation could not be excluded. Infection of the adenoid growths in the naso-pharynx was not possible except by means of inhalation. In children there was often a combined tuberculous infection of the nose, throat, and the glands of the neck which was called scrofulosis. The pathological conditions found in tuberculous disease of the upper respiratory passages accordingly did not favour a change of opinion as regards the importance of infection by air.

Professor ORTH (Berlin), who also took part in the discussion, formulated the following conclusions, arrived at after carefully considering the question for many years. The bacilli of Koch could establish themselves in the lungs and produce tuberculosis either after having gained access by means of the inhalation of air charged with them or

after having first invaded the glands and thence found their way to the lung either by the circulating lymph or blood or by direct access owing to the breaking down of glands. They would also enter the body from the intestinal canal, which might itself, however, remain completely unaffected. A special predisposition was necessary to produce tuberculous lesions of the lung. Such a predisposition might be acquired by repeated attacks of bronchitis or similar diseases. Even small quantities of bacilli gave a positive reaction in the lung, but large quantities were often inactive in the intestinal canal. From the point of view of prophylaxis the question of the channels of infection was of only secondary interest, for the object to be aimed at was the destruction of all sources from which infection might take place. Such sources were the milk and butter from diseased cows and the sputum of tuberculous individuals. Bovine tuberculosis was undoubtedly infectious for human beings.

Dr. KUSS (Angicourt) said that experiments made by him on guinea-pigs led him to conclude that infection by the respiratory organs was much easier than by the alimentary canal.

Dr. MALM, director of the Board of Hygiene at Christiania in Norway, gave an account of experiments which he had made as to the infectiousness of different types of bacilli. He found amongst other interesting facts that dried tubercle bacilli freely exposed to daylight retained their virulence for 32 days and their vitality for 68 days; when, however, they were kept in a dark place they lived for 154 days.

(To be continued.)

THE INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY:

THE EXCURSION TO HAMBURG.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

As already mentioned, no sooner had the Fourteenth International Congress of Hygiene and Demography terminated its labours than a large number of its members hastened to catch the special train which was to convey them from Berlin to Hamburg. This excursion had been limited to 500 but I fancy that this number was exceeded. It was past eight in the evening when the train reached Hamburg. The organisation was excellent. In entering his name during the previous week at Berlin each member selected from a list of hotels the one which he preferred and the position of the room which he desired. He then paid for one night's lodging, was given a receipt, and consequently found his room ready for him on reaching Hamburg. This was fortunate, as there was no time to spare. It was necessary to hurry off to the Zoological Gardens where an informal reception had been prepared. Large reception-rooms were reserved for the members to meet in and supper was ready in an adjoining hall. Of course this was followed by speeches of welcome delivered by members of the Hamburg Senate. This being a free town or port the members of the municipality are called senators and their president instead of being the lord mayor is addressed as his magnificence. It is a wealthy and ancient corporation and the modern developments of the port have greatly added to its importance. From the sanitary point of view Hamburg enjoys the unenviable reputation of being the site of the greatest cholera epidemic of modern times and for that reason is one of the most instructive places which a student of hygiene could visit. In the speeches at the banquet some slight allusion was made to this fact. The president of the bureau of hygiene recalled the horror of the cholera epidemic of 1902 and made that an opportunity to compliment the town of Hamburg upon the energy with which it rebuilt its waterworks. Here undoubtedly the speaker was recording a historic fact, for the work was pursued night and day without a moment's respite till every drop of water delivered in Hamburg was properly filtered. In this the town set a great example and as the next congress of hygiene is to meet in the United States of America it would be well if this fact could be recorded on that occasion. There in Philadelphia city, at Pittsburg, and many other great towns the inhabitants had been compelled to drink sewage-polluted and unfiltered river water. Epidemic after epidemic of typhoid fever occurred before any effort was made to establish a filtering plant. This negligence, which has cost the lives of many thousand inhabitants of some of the principal cities of the United States of America, compares very unfavourably with the promptitude displayed by the authorities at Hamburg. As soon as it was evident that the unfiltered water at Hamburg might justly be suspected of distributing the cholera poison throughout the population not an hour was lost in constructing vast filtering beds and these, of course, the members of the Congress of Hygiene had an opportunity of visiting.

On the following morning the 500 guests of the town had to be at the appointed meeting places by 9 o'clock. They were divided into five groups, each with a different programme, and each member selected that which interested him most. A large map, given to every person, was marked with numbers corresponding with the groups so that it was easy to follow the itinerary of each party. Personally I joined the second group. To describe all that was shown would mean to write a formidable volume of the public and sanitary services of Hamburg but it may be useful to give a bare enumeration just to show how much there is of interest at Hamburg. Thus the first group met at the Institute for Naval and Tropical Diseases, inspected the harbour and emigration medical services, visited an emigrant ship and saw the Nocht-Giemsa method of killing rats and the sheds for emigrants. The third group was conducted to the orphan asylum, the vaccinating institute, the application of special methods for milking cows for infants, the swimming pavilion of the Lübecker Tor, the general hospital of St. George, the disinfecting institute, and the crematorium. The fourth group went to the Eppendorfer Hospital, the central prison, the crematorium, and the cemetery. The men only were admitted in the prison, the ladies visited the laundry. The fifth group inspected the hygienic institute, the slaughter-house, the cold storage, the morgue and harbour hospital, the public school of Holstenwell, the criminal museum, and the appliances for the transportation of the sick.

We of the second group embarked on two river steamers and were conveyed through the harbour to the Billwarder Island where to the east of the city is situated the water intake. Here we all landed and visited the vast settling tanks where the water drawn from the River Elbe is kept for about 30 hours so as to deposit the heavier particles of mud which it contains. On the next island nearer the city are the great filtering beds. One of them was empty and we were able to see the celebrated film on the surface of the sand which retains the microbes. It was a very black and dirty film and when some of the sand and the adhering film were taken up and washed there was a very pronounced odour, thus proving that a considerable amount of organic matter is extracted from the water by the process of filtering. Models and maps had been prepared, so that we could easily understand the whole process and see the ingenious devices adopted for cleaning, under the ice in winter time, the surface of the sand at the bottom of the filtering beds. There is here also a large laboratory with a numerous staff of chemists and bacteriologists who are ever at work examining the filtered and the unfiltered water, so that extra precautions may be taken when necessary and the delivery of water stopped altogether if it appears to be filtered inefficiently.

Our next visit was to extensive docks and sheds, where the fruits and plants and green things generally are examined, put in quarantine, and treated much in the same way as if they were human beings or the lower animals—e.g., cattle. Here likewise is a laboratory with the necessary microscopes and further there is a sort of pathological museum. Preserved in spirits and in bottles or represented by coloured pictures suspended to the walls are the butterflies, moths, grubs, and larvæ which are the cause of various diseases, from the phylloxera of the vine to the common apple lice. Then there are the fruits themselves, preserved so as to show students how they appear when diseased. There are here also specimens of diseased cigars and cigarettes and the worm by which they are attacked. This is a new service in which ten microscopists are constantly at work. No fruit, vegetable, or vegetable substance, such as tobacco, is allowed free pratique at the port of Hamburg until it has been carefully examined. If it is found to be diseased it must either be destroyed or taken away from Hamburg.

From the fruit inspection station we proceeded by steamer down the river until we reached the great docks where the

passenger ships of the Hamburg-American line are moored. Here we found the *König Wilhelm II.* and the *Meteor* side by side and gaily bedecked with flags. The members of the first group joined us at this point, together with many invited guests from Hamburg. Thus the saloons of both these beautiful steamers were filled with people who all heartily enjoyed the excellent lunch which was served. Afterwards we went over the huge emigrant ship the *President Lincoln*, but it must be confessed that this visit to these ships was disappointing. As guests we were treated to good demonstrations of culinary accomplishments; as technicians in respect to sanitation we saw and learnt little or nothing. Being much interested in naval architecture from the sanitary point of view, the warming and ventilating, for instance, of cabins, I was anxious to travel homewards by one of these great German liners, embarking at Hamburg and landing at Southampton. When, however, inquiries were made as to whether there would be facilities for examining these matters on the road the answer was that the members of the congress would be received on board the ships in the docks and shown over. This was done, but, of course, there was neither the time nor the opportunity to enter into technicalities.

Close by we saw a large laboratory with every convenience, where all meat landed is carefully examined. From each hog, I was assured, no less than 28 different samples were taken and passed under the microscope. It is impossible to visit these laboratories, with their rows of microscopes, their numerous attendants, their varied and sometimes costly apparatus, without being profoundly impressed by all this elaborate machinery and organisation. There is, indeed, much to be learnt here, especially by the Americans and the British who are decidedly behind the age in regard to the inspection of meat and vegetables.

In the evening all the members of the International Congress of Hygiene and Demography who had participated in this excursion to Hamburg were entertained in the town hall. There were no after-dinner speeches but all assembled in the great hall and standing in front of a throne listened to various addresses, mostly spoken in German by our hosts who were naturally desirous of welcoming us, of paying us a few compliments, and of saying a word or two in favour of their own city. Dr. Mosny briefly replied in French for the French and Sir Shirley F. Murphy in English for the British contingent. As everyone was standing and everyone was tired with the hard day's sightseeing the necessity of curtailing the speeches was obvious. When they were over the guests invaded the various rooms and sat down to a very substantial supper and good wines. Undoubtedly the city of Hamburg displayed lavish hospitality and, what is more, great skill in organising the receptions, the excursions, and the numerous visits made to its varied and interesting institutions. Certainly, all who took part in this excursion must have been well pleased and all joined sincerely in the thanks expressed for the reception which had been given to them.

WIGAN MEDICAL SOCIETY.—The annual meeting of the above society was held on Oct. 8th, when the following were elected office-bearers for the coming year: President, Mr. C. T. Street; ex-President, Dr. Ferdinand Rees; committee, Dr. M. Benson, Dr. R. P. White, Mr. C. M. Brady, Mr. T. M. Angior, and Mr. William Berry; honorary secretary, Dr. J. Blair; hononary treasurer, Mr. E. H. Monks.

THE ROYAL SOCIETY OF MEDICINE.—The first ordinary meeting of the Laryngological Section will be held at 20, Hanover-square, on Friday, Nov. 1st, at 5 P.M. Members desirous of exhibiting cases or specimens are requested to notify the same to the senior secretary not later than Friday, Oct. 25th. Members would greatly facilitate the business of the meeting by forwarding, on or before Oct. 25th, a short *précis* giving the more important facts relating to each case or specimen to be exhibited, and drawing attention to the points on which discussion is invited.—The first meeting of the Odontological Section of the Royal Society of Medicine, session 1907–08, will be held at 20, Hanover-square, W., on Monday, Oct. 28th, when the President, Mr. J. Howard Mummery, will deliver his inaugural address. A paper will be read by Mr. John Humphreys on the Structure of the Teeth of Fossil Fishes. The paper will be illustrated with lantern slides.

NOTES UPON HEALTH RESORTS.

JAMAICA AS A HEALTH RESORT.

(BY OUR SPECIAL COMMISSIONER.)

II.[1]

ITINERARY.—PORT ANTONIO.—THE NORTHERN COAST.—MONTEGO BAY.

IN a previous communication the general climatology and topography of Jamaica have been considered, and the plan adopted by your Commissioner in the remaining articles will be to give first a brief description of the itinerary made and then to describe in general terms the mineral springs, sanitation, public health, food-supply and water-supply of Jamaica, and other matters which are of importance to the invalid and the tourist.

Itinerary.

The visitor to Jamaica has in a comparatively small compass the opportunities of passing his days amidst very varied conditions of scene and climate, as the sea-coast, the uplands, and the inland plains all present their own features. It is the two former of these localities which will attract the health seeker and having regard to this point of view I have thought it best to deal mainly with the seaboard and hill country, leaving the plains to those interested in the economics of Jamaica. I was much helped in planning an itinerary by the kindness of several residents and under their advice I decided to make first across the island for the north coast at St. Ann's Bay, then to drive along the seaboard until Montego Bay was reached, and thence to turn southwards to the hill district of Manchester, visiting Mandeville and the Milk River mineral baths, and finally the Santa Cruz mountains, which have the reputation of enjoying the finest climate in the island, before returning to Kingston. A word must first be said about the means of travelling in Jamaica. The country is so mountainous, with such an unbroken succession of parallel ridges, that the construction of the two lines of railway which it owns has necessitated the expenditure of much time and engineering skill. Kingston, situated at about the central point of the eastern half of the southern seaboard, is the starting-point of the two lines which have a common track to Spanish Town whence one branch runs up to Port Antonio on the eastern side of the northern coast, striking the sea at Annotta Bay and running eastward to the terminus, whilst the other branch runs north-west, passing through the Manchester hills and climbing up and up through the wild region known as the Cockpit country until it drops down again to the sea at Montego Bay, some 120 miles west of Port Antonio. A third short track leaves Spanish Town and at present has its terminus at Ewarton, about 20 miles north of the old capital, and it was from this town that I set out into the middle of Jamaica by road.

Port Antonio.

Before proceeding to describe the journey a word may first be said about Port Antonio, which was omitted from the itinerary, although it is perhaps the best known and most advertised watering-place in Jamaica. It is practically an American holiday resort and it owes its prominence to the fact that it is the port of entry of a line of boats which bring down passengers from New York and take bananas back to the United States. Like very many other places in Jamaica, it is set amid scenes of great natural beauty and in addition it has the convenience of a very large hotel, situated on a peninsula which is nearly an island and worked on American lines at a somewhat high tariff rate but, as I am informed, in an extremely efficient manner. Indeed, the comparisons which I heard made between this hotel and the principal hotel in the neighbourhood of Kingston, the English port of entry, with respect to boarding arrangements and service, were by no means entirely favourable to the latter, which is a pity in view of its many advantages in the matter of site, swimming-bath, golf course, and so on.

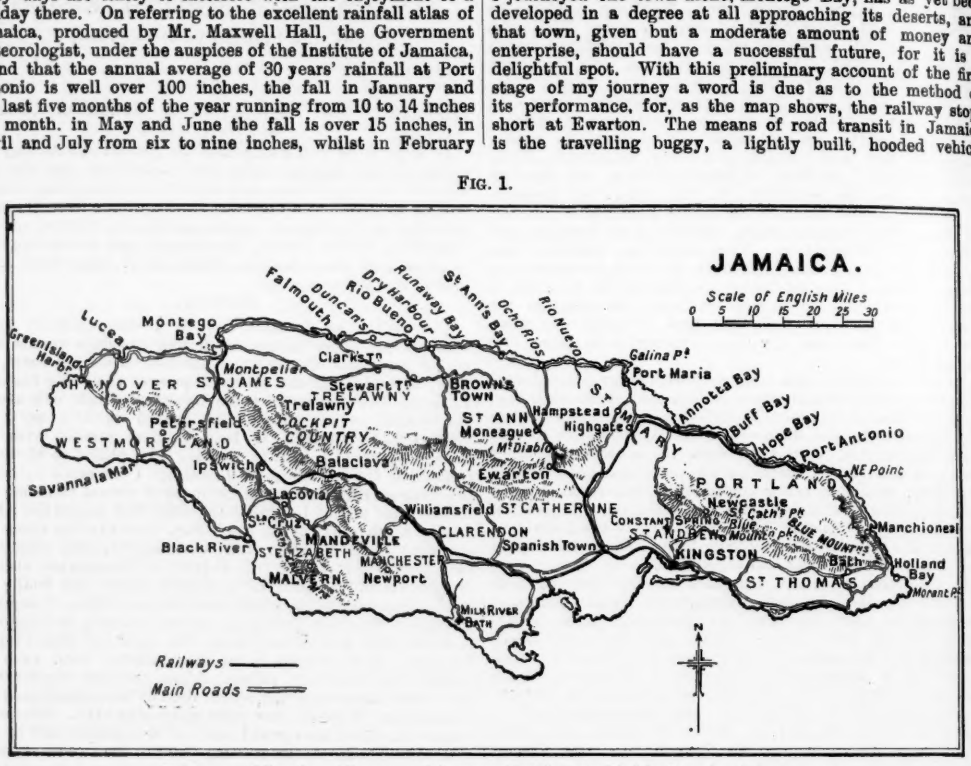
Sea-bathing can be enjoyed at Port Antonio, the bathing place being reached by boat; the town has a good water service and the sanitation conforms with European—or rather American—requirements. But to consider that Port Antonio epitomises the attractions of

[1] No. I. was published in THE LANCET of Oct. 5th, 1907, p. 985.

Jamaica is entirely wrong. There is one undoubted disadvantage to which Port Antonio is subjected, it is situated in one of the wettest districts of the island; and rainy days are likely to interfere with the enjoyment of a holiday there. On referring to the excellent rainfall atlas of Jamaica, produced by Mr. Maxwell Hall, the Government meteorologist, under the auspices of the Institute of Jamaica, I find that the annual average of 30 years' rainfall at Port Antonio is well over 100 inches, the fall in January and the last five months of the year running from 10 to 14 inches per month, in May and June the fall is over 15 inches, in April and July from six to nine inches, whilst in February and March alone is it under five inches, when the visitor can rely on a good number of rainless days. The contrast in this matter presented by Montego Bay to the westward will be set forth in due course. It is only fair to Port Antonio to say that much rain falls in the night; but during the day the downpours are very sudden, coming up with little warning from the hills, and an unwary visitor may well get a soaking in a few minutes. At the time of my visit in September the hotel referred to above was closed and as Port Antonio has been fully described elsewhere I decided to visit other towns on the northern seaboard and to find out personally what attractions and accommodation they offer for the traveller and the invalid.

I may further preface the account of my tour by saying that the northern seaboard has great possibilities to attract winter visitors, although along the stretch of it over which I journeyed one town alone, Montego Bay, has as yet been developed in a degree at all approaching its deserts, and that town, given but a moderate amount of money and enterprise, should have a successful future, for it is a delightful spot. With this preliminary account of the first stage of my journey a word is due as to the method of its performance, for, as the map shows, the railway stops short at Ewarton. The means of road transit in Jamaica is the travelling buggy, a lightly built, hooded vehicle drawn by a pair of horses, or in some country districts by mules; the horses, although not much to look at, as a rule are capable of going hour after hour at a steady trot which few English draught horses, however well-looking, could rival. There are exceptions to the rule on the road, but a respectable livery keeper will generally supply horses equal to the work required, which is more than can be said of the owners of the miserable ponies which draw the ramshackle little buggies or "buses" plying for hire in the streets of Kingston. The discomforts of buggy travelling in this island are much alleviated by the excellence of the roads; they are well planned, well metalled, and well kept, the main roads by the Government

FIG. 1.



Sketch-map of Jamaica. Many mountain ranges have been omitted for the sake of clearness.

FIG. 2.

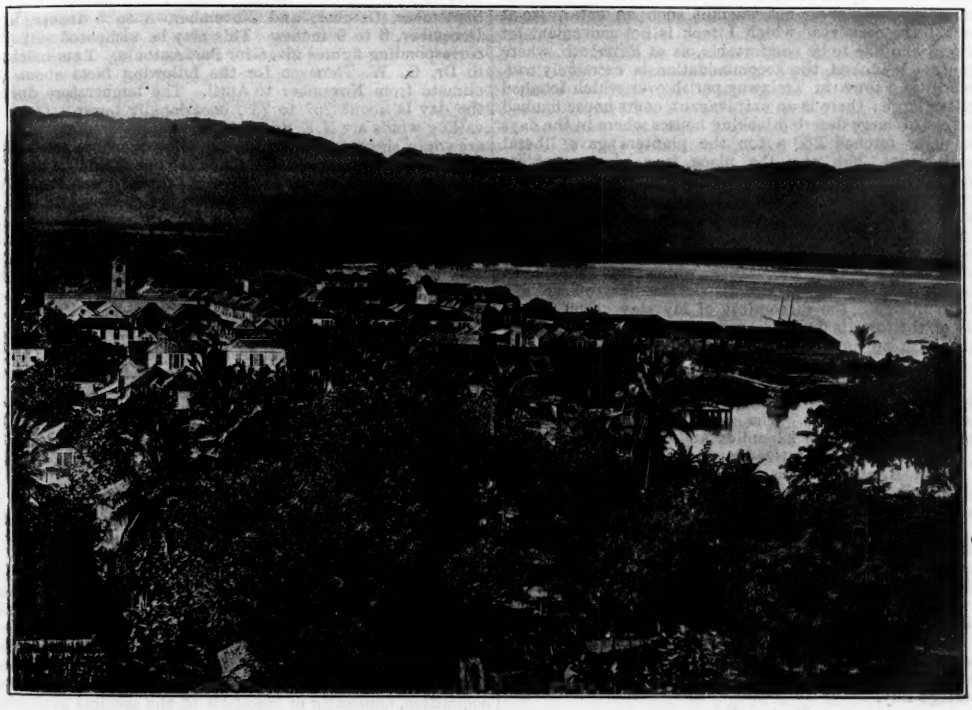
"Doctor's Cove," Montego Bay.

FIG. 3.

On the northern coast of Jamaica.

and the by-roads by the parochial authorities; many miles of the main roads are constructed on the mountain sides, climbing in loops and zigzags up 3000 feet and more, but often with the gradients so arranged that a good pair of horses can take nearly all the journey at a trot. The beauty of these roads is invariably great, as on either side tropical vegetation runs riot in countless variety of trees and bushes and climbing plants, and palms, cocoanut, banana, and bread-fruit trees, with the waving plumes of the bamboo groves and the stately solitary cotton trees pass by in endless procession, their splendid greens being strikingly relieved here and there by the flaming scarlet blossoms of a poinziana tree, the vivid red lamps of the beautiful akke, or the golden globes of the orange and mango trees. On these mountain roads the hill rises steeply on the one side, whilst on the other is a drop down to the valley below; but the most timorous traveller need have no fear of this, for the mountain side is so thickly grown with trees and "bush" as to form a barrier scarcely less efficient than a stout stone wall; and when the summit of the ridge is reached he will enjoy such a sweeping prospect of mountains, valleys, and plains, and often of the sea as well, as will reward the most arduous ascent.

FIG. 4.



Montego Bay.

The Northern Coast.

It was under a scorching September sun that I left Ewarton station and started my buggy travelling over such a road, climbing for three miles with an ascent of 2000 feet over Mount Diabolo, from the summit of which one of the best known views in the island is seen, and then descending more gradually to the plain where nestles the little township of Moneague, as peaceful a habitation as the noise-racked city dweller could wish to discover. I stayed only for lunch and to change horses, but there is a good hotel available for tourists who wish to spend a quiet time in a restful district which, save that apple orchards are replaced by orange trees, large oaks by the splendid silk cotton trees, and pine clumps by occasional tall palms, might be situated in a rolling English park country. For many miles I drove on through this scenery until with one of those startling transformations which render road travelling so delightful to the tourist in Jamaica we suddenly entered the famous Fern Gully and for two miles or so drove through a tropical gorge of exceeding beauty with numberless ferns climbing up steep rocks to a grove of splendid trees. Soon after leaving the gully we came down to the seashore at Ocho Rios and turned westward along the coast. It was here that I first realised the fitness of the description of Jamaica as "the Riviera of the West," as the sea suddenly came into sight, a mirror glowing in a hundred magic blues, colours such as are inseparable from tropical waters over coral reefs; from the sand rose groves of cocoanut palms, whilst varied vegetation covered the rocks that jutted out in picturesque promontories, and on the other side of the road the Roaring River ran merrily along. It was a picture such as I was to see repeated many times in driving along the coast but never more prettily than at Ocho Rios. The town has no special accommodation for visitors, the chief centre of the district being St. Ann's Bay, some five miles along the coast. Although intensely hot in summer, this is a place that is well worth a winter visit. There is a very fair hotel standing upon a steep hill above the town and there is one of the finest water-supplies in Jamaica from the Roaring River, the falls of which are within an easy drive of the town. The lower levels of the town have been properly drained. The district of St. Ann's has been called the garden of Jamaica and this little town, the Santa Gloria of Columbus, should have a good prospect of development when the advantages of the Jamaican Riviera are more widely known. Even as it is, it would afford a pleasant and safe wintering place for any invalid needing a warm climate and loving natural beauty rather than social pleasures.

My next day's drive along the coast to Falmouth impressed me still more with the potentialities of this northern seaboard, although not until I reached Montego Bay on the following day did I find any place offering even fair accommodation to the visitor unless he could arrange for it in a private house. This middle coast is quite undeveloped from

the point of view of attracting visitors, but several such spots as Runaway Bay (where I was told there is a private sanatorium), Dry Harbor, and Rio Bueno have the natural advantages for delightful little winter watering-places. The stretch from St. Ann's Bay to Montego Bay is about 58 miles, many of which are along the sea, and unless the visitor waits for a coastal steamer he must either travel as I did by buggy or else drive back to Ewarton, return by train to Kingston, and there change to the Montego Bay line and cover its whole length. There is an alternative driving road to that which I took along the coast; it loops inland, traversing the "parishes" of St. Ann's and Trelawny. If this route be taken the journey may be broken at Browns Town, which has the reputation of being one of the most beautiful and healthy settlements in the islands, a fact of which I was assured by several medical men who speak highly of its dry air and even climate for the treatment of pulmonary disease; the accommodation is quite good and the town is reached by excellent roads, although there is no railway near it at present. If this northern side of the island were served by a line looping inland and connecting the terminuses of Montego Bay and Port Antonio it would do much to open it up as a health and pleasure resort, but local economic conditions do not warrant such an enterprise at present. The coast road which I took is not convenient for travellers who like to be comfortable, as at Falmouth, where the journey is broken, the accommodation is extremely bad. Falmouth is a town in Trelawny parish over which Ichabod is written large; there is an extravagant court-house flanked by streets of large deserted-looking houses where in the days when sugar fetched £60 a ton the planters gave liberal entertainments, but now the place is a shadow of its former self. My stopping place was a dreary barn, innocent of bedroom curtains or comfort, with a dark well for a bath, sanitary arrangements both public and primitive and a bed literally like a board. It would be impossible for an invalid or a delicate lady to put up with such accommodation. The hospitality which was shown to me by Dr. C. A. Thomson, the district medical officer, did much to mitigate the discomfort of my stay. The water-supply of the town is drawn from a well by a large "Persian wheel" with an auxiliary force-pump and stored in a big open stone reservoir in the centre of the town. Falmouth may revive some day if this northern Riviera be properly developed, but its activities as a commercial centre seem to belong to the past. The drive from this town to Montego Bay is about 22 miles and it passes by Rose Hall, one of the most interesting houses in Jamaica and well worth a visit as an object-lesson of how sugar planters used to live in the slave days. The mahogany carved staircase and panellings and the polished dancing floor would grace well an old English mansion-house, although Rose Hall is now deserted and falling into decay. It stands on a hill open to the full sea breeze; it is surrounded by the ruins of an extensive garden and it has a fine view out to sea. It seems a great pity that this magnificent old building should not be rescued from the state into which it has fallen, for it might make an excellent winter hotel or sanatorium. Any traveller along this road should obtain permission to visit it and it is within a drive of Montego Bay.

Montego Bay.

Montego Bay, as has been said, is connected by rail with Kingston. The bay itself is very beautiful, with its long hill boundary sweeping away to the west, its palm-grown sandy shores and the cluster of coral islands set in its waters. The town is of a fair size, but it is not in the town itself that the visitor should stay; the best hotels and private houses are set up on the hills behind it; at the hotel on Spring Hill, where I stopped, I found comfort and attention, good food and sanitation, a large bath, and a reasonable tariff. The town has a good, though hard, river water-supply and excellent milk can be obtained. Montego Bay has the reputation of being a very hot place. All the northern seaboard is hot in the summer months, but it is as a winter resort that it should find its future prosperity. A valuable asset of this town is its bathing place, known as Doctor's Cove, which serves literally as a daily tonic for inhabitants and visitors. It is situated nearly a mile from the town and forms an habitual meeting place, men bathing in the morning, ladies at noon, whilst mixed bathing is permitted at 4 o'clock. The cove is protected by a coral reef some 200 yards out, inside which no shark or barracouta (dreaded by the natives more than they fear the shark) has ever been known to come. The bottom is of white sand with a few patches of coral rock, and the depth is perfectly graded so that the bather can lie down close in shore with his body completely immersed. At one place a point of rock juts out on which is a diving board over some nine feet of water which is so clear that the bottom can be plainly seen. The temperature of the water is usually about 78° to 80° F. and there is no limit to the time spent in bathing so far as safety from chill is concerned. There is good dressing accommodation and the charge for bathing is moderate. The bay affords good fishing and to the naturalist is quite a treasure-house. Montego Bay would make a capital yachting station for boats of the smaller ratings; it already boasts a motor-boat. There are opportunities also for polo playing. At present the hotels are small, but they are quite capable of development. The place possesses a great attraction for invalids in its equable warmth and still more in its dryness. The following figures are from Mr. Maxwell Hall's atlas. Average annual rainfall over 30 years, 40 to 50 inches; January, 3 to 5 inches; February and March, 1 to 2 inches; April and May and July, 3 to 5 inches; June, 1 to 2 inches; August, September, October, and November, 3 to 5 inches; and December, 6 to 9 inches. This may be compared with the corresponding figures given for Port Antonio. I am indebted to Dr. G. W. Thomson for the following facts about the climate from November to April. The temperature during the day is about 76° to 78°, occasionally lower. The prevailing winds are N.E. and E.N.E (i.e., sea breezes). There are slight showers of rain during these months; the soil is of porous limestone and the roads are dry within an hour of heavy rain. The houses are as a rule dry and well ventilated but the sanitary arrangements are often primitive. He further states that there is no endemic disease prevalent and that neither mosquitoes nor malaria are prevalent in the winter months. It was with real regret that after a few days' stay I took the train to leave Montego Bay for the hill districts. Surely British enterprise might do for Montego Bay what American methods have done for Port Antonio.

R.M.S. *Port Kingston*, homeward bound, Oct. 1st.

[*Note.*—In the first article of this series (THE LANCET, Oct. 5th, 1907, p. 985), on the seventh line from the bottom the figures 5000 should read 4000.]

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Memorial to the late Professor J. Dreschfeld.

A REPRESENTATIVE meeting of the medical profession and the staff of the University of Manchester was held last week, presided over by Vice-Chancellor A. Hopkinson, to discuss the steps that should be taken with regard to the proposed memorial to the late Professor Dreschfeld. It was, after many suggestions had been made, finally resolved that an influential committee, consisting of members of the medical profession and laymen of Manchester, should be appointed to invite subscriptions and to arrange for a memorial which should take the form of a University of Manchester scholarship in medicine open to the children of those engaged in the medical profession. Particulars as to the scholarship were to be left to the committee. The Vice-Chancellor and several of the gentlemen present spoke eloquently of Dr. Dreschfeld and of his distinguished work in connexion with the University. Sir Felix Semon, speaking as one who had known him for 25 years, told of his friend's great pride in the pathological laboratory, his great modesty, and his love for Manchester. His renown, he said, went far beyond England and the obituary notices which had appeared in foreign newspapers had shown that in France, Germany, and America he was considered an accomplished pathologist and an accomplished physician. Sir Felix Semon said in conclusion that Professor Dreschfeld's "whole interest was centred in the city of Manchester and that something should be done not only by the medical profession but by the public at large to keep his memory green." There are, no doubt, many who are grateful for the help in their suffering that Dr. Dreschfeld was able to give who will respond generously to this appeal, for it must be remembered that the services of a

physician loyal to his profession are a great public benefit. This, perhaps, is an aspect of the case that the public does not always perceive.

The Coroner and Cases of Burning.

The loss of life among children goes on unchecked. The Manchester coroner, Mr. Gibson, spoke strongly the other day of the carelessness of parents and the need for stringent measures being taken to check "the appalling sacrifice of infant life." In the case giving rise to his remarks a girl, aged five years, lighted a piece of paper at the fire, which was without a guard, to look for something on the floor when her flannelette dress caught fire. The warmth of flannelette is of course the cause, along with its cheapness, of its almost universal use among the poor and the dangers which it brings with it are ignored. The mother in this case knew all about the dangers, had read the coroner's remarks in the papers, and yet had neglected to take any means for guarding against them. The coroner thought that unless parents would exercise more care against the danger of fire "the law should make them, and if they did not do so then punish them. The number of burning cases was increasing instead of diminishing." The verdict in this case was, of course, "accidental death," but the mother was certainly responsible for contributory negligence. She, it seems, had gone across to a neighbour's house "to have her dress fastened."

Suggestions in Hygiene.

The medical officer of health of Manchester, Dr. J. Niven, gave the first of a series of addresses the other day to the members of the Sick Nursing Association which carries on its work in Manchester and Salford. The lecture was designed to help the visiting nurses whose duty it is not only to attend to the sick but also to give advice and help to those who have the care of homes. From the lecture it is evident that however his knowledge of the details of household management was acquired he could give points to many skilled housekeepers. He dealt with many subjects bearing on domestic hygiene and economy and dwelt on the need of tact in offering advice on such matters. He spoke of the cleaning of "pots" and floors, the serving and keeping of food, the furnishing and decorating of small houses, the management of children, of cheerfulness and thrift, and gave a sketch of the way in which "an ideal working-class housewife" would spend her money. One part of his address dwelt on the value of light in preserving health. It not only shows up dirt which would not otherwise be noted but is fatal to many disease germs. The black smuts with which the air of Manchester is laden absorb much light which in a thickly populated area is so much needed. He spoke of the way in which the housewife, with her fondness for curtains and hangings, unthinkingly deprives her household of "a certain amount of the sun's beneficial influence." Personally, he would do away with curtains altogether, "but this, perhaps, was a counsel of perfection." All backyards should be limewashed so as to reflect as much light as possible into the back rooms. Though they seem so obvious and simple, these lessons in hygiene can never be too often repeated, for the ignorance and the stupidity—as one is inclined to call it—of a large section of the working classes are almost incredible. And it is, perhaps, a surer way of reaching the minds of the ignorant to instil knowledge of this kind gradually by the conversational intercourse of an intelligent nurse than by set lectures, however they may seem to be brought down to the capacity of the hearers.

Chorlton Guardians and Midwifery Fees.

The Manchester Corporation decided recently to pay the fees of medical men called in by midwives in certain cases where the patient is too poor to pay. After some discussion at a meeting of the Chorlton board of guardians it was recommended by the general purposes committee of the board that in view of the action of the corporation no steps should be taken by the board of guardians. By this action of the corporation the board seems to be relieved from responsibility.

Medical Inspection of Children.

At the annual meeting of the Cumberland Nursing Association, held at Carlisle on Oct. 19th, Lord Morpeth, the President, in moving the adoption of the report, referred to the fact that it was now the duty of the county education committee to provide medical inspection of children after or before admission to elementary schools. He thought "a close watch might be kept on schools by nurses for minor ailments, and that for this purpose an understanding should be arrived at with the nursing association." It seems very desirable that there should be some arrangement for supplementing the medical inspection by the assistance that a trained nurse can give in carrying out the medical man's recommendations, and a nurse might often notice cases that could be brought before the medical man sooner, perhaps, than the teacher might do. Moreover, the teacher has enough to do to carry on his or her special work without having the attention disturbed by having to institute as well a sort of medical supervision. The responsibility as to the inspection would, of course, rest on the medical man.

Oct. 22nd.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Malaria in the Mauritius: Banquet to Professor Ronald Ross, Presentation to Mr. W. M. Haffkine.

Sir Alfred Jones, K.C.M.G., the chairman of the Liverpool School of Tropical Medicine, entertained a distinguished company at a farewell banquet at the Liverpool University Club, on Oct. 21st, to Professor Ronald Ross, C.B., F.R.S., the director of the school, on his departure for the Mauritius, whither he is going at the request of the Colonial Office with a view to the prevention of malaria. The occasion was also interesting by the presentation to Mr. W. M. Haffkine, C.I.E., of the Mary Kingsley medal for the work which he has done in India in diminishing the mortality due to the plague. Sir Alfred Jones said that the occasion of their meeting was gratifying to Liverpool and of great interest to the whole of the civilised world. The work done by the Liverpool School of Tropical Medicine entitled it to universal recognition. Professor Ross on the eve of his departure had their assurance that they all looked forward with hope to the successful accomplishment of his task. Africa would never be able to repay Professor Ross for the work which he had accomplished there. In West Africa the death-rate had been reduced from 35½ per cent. to practically 2 or 3 per cent. The work which Professor Ross had done had interested other countries in the study of tropical medicine. In Liverpool they had spent £80,000 on the work and they had received splendid value for money expended. Sir Alfred Jones also spoke of the services of Mr. Haffkine who had been instrumental in saving millions of lives in India where the plague was raging. As a recognition of his splendid labour they desired to present him with the Mary Kingsley medal. Dr. J. W. W. Stephens explained that the Mary Kingsley medal was presented from time to time by the committee of the Liverpool School of Tropical Medicine to those who had done very distinguished work in connexion with tropical medicine and sanitation. Dr. Stephens recounted the services rendered to the cause of fighting tropical disease by their guest Mr. Haffkine who in 1893 discovered a method of inoculation against cholera and proceeded to India in order to persuade people to use it on a large scale. In 1896, on the outbreak of plague in India, he had elaborated a similar method of inoculation against that disease also. Since then over 6,000,000 doses of his prophylactic had been prepared and issued by the Government of India and it had been shown to reduce the mortality among the inoculated to one-sixth. Mr. Haffkine, in responding, said that he deeply appreciated the recognition of his work. He spoke in enthusiastic eulogy of the humanity of Miss Mary Kingsley who had met with her death in the Boer war. She had been one of the direct instigators of the School of Tropical Medicine which had taken up such an important sphere of usefulness and had grown so remarkably under the support of Sir Alfred Jones and other public-spirited citizens. Professor Ross, in response to the toast of his health, said that the best test of the value of the work of the School of Tropical Medicine was found in the great demand for additional studies by a constantly increasing number of students and by the results of work in West Africa. No fewer than 19 expeditions had been sent out by the school and it had published many volumes, the cost of all having been mainly borne by Sir Alfred Jones. The expedition to Mauritius was the outcome of a struggle between himself and the authorities. Malaria entered Mauritius in 1866 and although it would not be true to say that it had made the place uninhabitable, it had injured the plantations of the

island immensely. The War Office had been kind enough to send out one of its most promising officers—Major Fowler—to help in this work. Major Fowler had gone on in advance in charge of the heavy baggage. Continuing, Professor Ross remarked that the methods and aims of scientific men who were investigating disease were not properly understood and people did not properly appreciate the importance of studying all kinds of diseases. There were many diseases in this country which ought to be made the subject of close study—measles and scarlet fever for example. They appeared to be accepted as absolute and necessary evils, for nobody was inquiring into their causes. Professor Ross expressed his objection to the accident which had occurred at Malkowal in connexion with the inoculations being attributed to the Haffkine laboratory. It must have been due to a misunderstanding that the accident was attributed to that source, for all the evidence proved exactly the contrary. He hoped that the mistake of the Indian Government would be rectified and that Mr. Haffkine would return to India at the head of the army which was pitted against the plague. A telegram of congratulation to Professor Ross and Mr. Haffkine was received on the 22nd inst. from the Right Hon. Joseph Chamberlain, in response to a telegram from Sir Alfred Jones informing him of Professor Ross's departure for Mauritius.

Oct. 22nd.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

A Proposed Joint Appointment of Medical Officer of Health in Monmouthshire.

THE necessity for improving the public health service of Monmouthshire either by appointing a county medical officer of health or by forming a combined sanitary district for the purpose of appointing a joint medical officer of health has been frequently mentioned in these columns[1] and the discussion of the question has now reached a further stage. After a report from Dr. Reginald A. Farrar upon the result of an inspection which he had made of the districts the Local Government Board suggested to the urban district councils of Abercarn, Abertillery, Bedwellty, Ebbw Vale, Nantyglo and Blaina, Tredegar, Risca, and Brynmawr that they should combine for the purpose named. A conference of representatives from these councils was held and as a result the Local Government Board was informed that strenuous efforts were being made to improve the conditions of the districts and it was considered undesirable to make the joint appointment suggested by the Board. The Board, in reply, expressed regret at this decision and drew attention to the observations in Dr. Farrar's report as to the advantages of a combined appointment, and further said that it had been found a general practitioner exercised a less effective supervision than an officer who was not in private practice. The working of combined appointments has proved satisfactory elsewhere and the conditions of the districts which they comprised had greatly improved. So convinced was the Board of the great advantages which might be expected to accrue from the appointment of a medical officer of health who was an expert in public health and independent of the embarrassments of private practice that the district councils were urged to reconsider their decision. It is to be regretted that even after this very strong expression of opinion from the central authority the representatives of the district councils concerned are still opposed to the Board's recommendation and have decided to ask for a personal conference with the officials of the Local Government Board on the subject.

Midwives in Rural Districts.

One gratifying result of the administration of the Midwives Act in some counties is the assistance given by the county councils in the training of midwives to practise in country districts. Having been trained there is, however, occasionally some difficulty in supporting them by the meagre fees which are paid for their services. The question was discussed at the annual conference of Poor-law authorities in the south-western district held at Taunton on Oct. 8th. As the result of the discussion it was resolved:—

That as the district nurse midwife presents for the time being the best solution of midwives in rural places boards of guardians should be advised to make liberal grants to recognised local district nursing associations, and that where any difficulty occurs as to the attendance of a medical man when called in by a midwife guardians should make some arrangement for paying his fees in cases where the patient is unable to do so, as suggested in the circular letter of the Local Government Board dated 29th July, 1907.

Election of a Coroner.

The Cardiff corporation has elected as city coroner Mr. Yorath who practises as a solicitor and who was until recently a member of the corporation. He was elected by an overwhelming majority over the other candidates, among whom were two medical practitioners.

Oct. 22nd.

[1] THE LANCET, May 11th (p. 1325) and 18th (p. 1393) and June 15th (p. 1676), 1907.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Glasgow Samaritan Hospital.

THE secretary of the Samaritan Hospital for Women has just received an intimation from the Secretary for Scotland that the King has been pleased to allow the use of the word "Royal" in the title of the hospital. The hospital will accordingly hereafter be known as the "Royal Samaritan Hospital for Women, Glasgow."

The Eastpark Home for Cripples.

The annual meeting of the friends and supporters of the Eastpark Home for Infirm Children was held recently. The annual report states that during the year 84 children were admitted and 83 left the home, leaving 131 in residence at the present time. Of those who left 59 returned to their parents much benefited and able to go to school. There were four deaths during the year. The ordinary expenditure has exceeded the ordinary income by about £800, which has been made up by legacies received during the year. The directors are making an appeal to the public to supply sufficient funds to make both ends meet without necessitating the appropriation of their capital. Sympathetic reference was made to the death of the matron who for many years had taken charge of the home.

National Conference on Sweated Industries.

A national conference on sweated industries was held recently in Glasgow, 260 delegates being present from all parts of Scotland and England. The conference was largely due to the initiative of the Scottish Council for Women's Trades. A large portion of the work of the council consisted of the investigation of women's trades in the great cities. Not so very long ago that vast and almost utterly disorganised department of national industry was practically unexplored. But now, thanks to the work of the council, much more is known of the depressing and often tragic conditions under which women's work is carried on in our large centres of population. It is hardly necessary to indicate the bearing that this has upon the physical wellbeing of the present and future generations. An interesting address was given by Mr. Peter Fyfe, sanitary inspector, Glasgow, on Some Facts and Figures relative to Female Home-workers in Glasgow. As a solution of the difficulties in connexion with this part of the subject Mr. Ramsay Macdonald, M.P., advocated the licensing of home-workers. Various aspects of the question were discussed by other speakers. In the evening the delegates were received by the Lord Provost and magistrates in the City Chambers.

The Medical Service of the Territorial Force: Conferences in Aberdeen and Glasgow.

On Oct. 15th Surgeon-General Sir Alfred H. Keogh, K.C.B., K.H.P., Director-General of the Army Medical Service, held a conference with medical men and volunteer medical officers of the North of Scotland in the Albert Hall, Aberdeen, the headquarters of the Aberdeen companies of the Royal Army Medical Corps, Volunteers. Lord Provost Sir A. Lyon, Lord Lieutenant of the county of the city of Aberdeen, presided, and in introducing the Director-General spoke warmly in support of the scheme which he had previously had an opportunity of discussing with him. The Director-General then unfolded the scheme which he had formulated and presented to Mr. Haldane for his approval. Let those in the higher ranks of the profession who had previously held aloof from volunteering enrol themselves so as to be

called upon to act on the *personnel* of general hospitals. Let others take their part in the training and organisation of the field ambulances. As regards sanitation, he proposed to invite men trained for public health appointments and medical officers of health to take their part. He then explained how there must be founded a territorial army medical school. In future all new appointments would be made to the corps though officers would be appointed to act with special battalions at their own expressed desire. The scheme was a difficult one but he was hopeful of its complete success. Professor A. Ogston and Professor Matthew Hay afterwards spoke on behalf of the scheme.

At a similar meeting held in Glasgow on Oct. 12th Sir Alfred Keogh addressed a representative gathering of medical men from the West of Scotland interested in volunteering. He dwelt first on the defective character of the present Volunteer medical organisation. He pointed out especially the absence of any hospital organisation and how under the existing Volunteer regulations the leading civil physicians and surgeons were debarred from taking any active part in the medical service. Attention was also drawn to the fact that the Volunteer forces had no existing sanitary organisation and that it possessed no administrative staff. It is suggested that the medical organisation of the territorial force should be the exact counterpart of that provided for the regular forces. Without going into detail it may be said that the scheme unfolded for attaining this similar organisation makes good the defects already noted in the hospital accommodation, in the administrative staff, and in sanitary supervision. The scheme also seems to make it much more easy for the services of the whole profession to be utilised and that under conditions which whilst the country is at peace will make very little, if any, demand upon their time and will not interfere with their daily avocations. Naturally, where hospitals are to be provided nurses will be required and the scheme includes the idea of enlisting the support of the matrons of the civil hospitals in large towns and of the services of nurses generally in time of invasion. At the close of the address it was shown by the remarks of the various medical men who spoke that the meeting took a very favourable and friendly view of the proposals. A committee was appointed to receive any suggestions and to lay them before the Director-General.

The Epidemic of Enteric Fever at Peterhead.

During the past week four cases of enteric fever were notified to the medical officer of health of the burgh and all the patients were removed to the hospital. During the week seven patients were discharged after recovery, leaving 11 still in the institution.

Public Health Affairs in Aberdeen.

At a meeting of the public health committee of the Aberdeen town council held recently a circular was submitted from the Local Government Board with reference to the Vaccination (Scotland) Act which has now come into operation. The question of adopting the Notification of Births Act was also under consideration. The question of whether the amount received for condemned carcasses should be paid to the Butchers' Association or to the individual butcher to whom the condemned carcass belonged was next under consideration and it was agreed that the money should be paid to individual butchers.

Scottish National Institution for the Education of Imbecile Children; Meeting of Aberdeen Committee.

A meeting of the above committee has been held, Mr. G. M. Cook, shipowner, presiding. Mr. Fitch, the general secretary and treasurer, pleaded for additional support from Aberdeen. Since he last met them a new block of buildings to accommodate 50 additional patients had been opened. Towards defraying the cost he had received £5860 and he had the promise of another £25, leaving £400 still to raise. At present there were 282 children in the institution.

University of St. Andrews: Opening of Session.

The winter session at the University of St. Andrews was opened by the Principal, Sir James Donaldson, vice-chancellor, who delivered the inaugural address. This being the Principal's first academic public appearance since he received the honour of knighthood he received an enthusiastic welcome.

Court of the University of Aberdeen: Legacy by Aberdeen Man.

The Court of the University of Aberdeen met recently, Principal Lang presiding. It was intimated that a legacy of £500 had been received from Mr. Alexander Gillanders, a native of Aberdeen and a late Custom House officer in England, for the purpose of founding a bursary or medals in the faculty of medicine. It was remitted to the Senatus to suggest a scheme as to the manner of bestowal of the benefaction. Mr. John E. Kesson, M.B., was appointed second assistant in physiology.

Oct. 22nd.

IRELAND.

(FROM OUR OWN CORRESPONDENT.)

Belfast Medical School: Opening of the Winter Session.

THE formal opening of the winter session in connexion with the Belfast Medical School took place on Oct. 17th, when, in the Royal Victoria Hospital, before a large attendance of students and members of the medical staff (Sir William Whitla, senior physician, presiding) Dr. R. J. Johnstone gave the introductory address, dealing with questions of medical education and hospital attendance. In moving a vote of thanks to Dr. Johnstone, which was seconded by Professor Symington, Sir John Byers spoke of the great and growing strength of the younger branch of their medical school, of which Dr. Johnstone was a valued member.

Health of Belfast.

At a meeting of the public health committee held on Oct. 17th it was reported that the death-rate from all causes had risen to the high figure of 22·1, and from the principal infectious diseases to 5·5. It is said that the remarkable increase in the mortality is due to infantile diarrhœa, but why with cold weather it should prevail is hard to understand on public health grounds. For some time past the guardians have urged that the fever cases should all be removed to Purdysburn city infectious diseases hospital, and at the meeting of the public health committee the following communication was read from Mr. Robb, clerk of the union, in reply to a letter from the committee asking to be informed of the largest number of notifiable infectious diseases treated in the workhouse fever hospital during the past ten years at any time. He stated that they were as follow: 1898, typhoid fever, 425; 1901, diphtheria, 23; 1906, scarlet fever, 69; 1906, typhus fever, 21; and 1907, cerebro-spinal meningitis, 13. It is clear that to accommodate these a much larger hospital would be needed at Purdysburn.

Irish Lunacy Returns.

The annual report of the inspectors of lunatics, which has just been issued, shows that there were in Ireland on Jan. 1st last 23,534 lunatics, as against 23,365 in the corresponding period of last year. Of these, 11,300 were females and 12,254 males. With one exception, 1893, the increase in 1906 was less than that which took place during any of the past 21 years. In a period of 26 years (1880–1906) the main increase has been in the population of the district asylums, those in private asylums and institutions having increased only by 223, or an increase of less than nine per annum. Turning to deaths and illness in Irish asylums, the prevalence of consumption is deplorable, this disease being registered as the cause of death in 25 per cent. of the total deaths of the year. Curiously, much the lowest percentage of deaths from pulmonary tuberculosis is shown at Belfast, where the moist climate and the situation of the asylum in the centre of a large manufacturing city might, according to the popular view, have indicated that the ravages of the disease should be most severely felt. In this case the percentage of deaths from pulmonary tuberculosis was 6, in Dublin it was 27, in Cork 41, in Limerick 36, and in Ballinasloe 33—that is, in places situated in the south, south-west, and centre, where the climate, although damp, is comparatively genial, with little variation between the summer and winter temperatures. The truth is that there never was a greater fallacy than the popular one so long existent in this country that climate is the great element in Ireland in causing the prevalence of pulmonary tuberculosis. Financially the expenditure incurred in the maintenance of the patients in district asylums, including the repayments in respect of loans for building works, purchase of lands, and other capital charges, was £533,849. Excluding the loan repayments referred

to, which amounted to £92,835, the gross amount expended on the actual maintenance of the patients was £441,013.

Oct. 22nd.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Method of Action of various Treatments for Cancer.

Dr. Doyen, whose investigations into cancer and its treatment are widely known, read a paper on Oct. 8th upon this subject before the French Surgical Congress recently held in Paris. He first called attention to the fact that nearly seven years have passed since he began his first experiments in antineoplastic vaccination with attenuated cultures of micrococcus neoformans. He has often shown medical visitors to his clinique patients who have been under treatment for four, five, or six years. Dr. Doyen claims that there is a general method of treating cancer and he compares the effects of this with those of local methods of treatment such as are commonly employed in superficial cancers, and he insists that one and the same principle underlies all these various measures; this is the destruction of the cancerous cells by phagocytes. The memorable discovery of phagocytosis by the genius of Professor Metchnikoff affords the clue to the complete pathology of cancer. The human tissues, whatever be the morbific agent which attacks them, have only one defensive process, phagocytosis. It is the phagocytes which enter the lists against the host of pathogenic micro-organisms and on the balance of the battle hangs the life or death of the patient. Since this has been shown the whole problem of cancer has cleared up remarkably. Certain people show relative immunity to the disease; for instance, patients with atrophic scirrhus. In a certain number of cases these involuntary phenomena can be excited artificially, either by anti-cancerous vaccination alone or in superficial and accessible cancers in combination with the action of x rays, radium, high-frequency or bipolar currents. The vaccine acts by increasing ten-fold the activity of the phagocytes and the physical adjuvant methods by diminishing the virulence of the cancer cell which, since it is very tenacious of life, resists phagocytosis vigorously. Dr. Doyen places much reliance on bipolar currents and declares that they should abolish unhealthy wounds and fœtid ulcers.

A Case of Solid Tumour of the Mesentery.

At the same meeting M. Monprofit of Angers reported a case of a large solid myxomatous tumour of the mesentery weighing 5½ kilogrammes in a patient, 63 years of age. This tumour was removed without great difficulty but it was necessary to do an extensive resection of the small intestine which was lying across the front of the tumour and which could not be kept intact on account of the intimate adhesions between them. This loop of small intestine was two metres long and formed the lower part of the ileum, the lower section being made only ten centimetres above the ileo-cæcal valve. The patient made a perfect recovery and remains without any intestinal symptoms. M. Monprofit discussed the indications for resection in similar circumstances.

The Treatment of Syphilis by Bibromide of Mercury.

At the Therapeutical Society on Oct. 4th M. Pelon said that he had treated 47 patients with injections of bibromide of mercury which he had found remarkably painless in doses of one cubic centimetre. A double dose is more painful but the salt is always better borne than the other soluble salts of mercury.

Hospital Abuse in Paris.

I have on several previous occasions called attention in these columns to the question of hospital abuse in Paris. To make my present remarks clear I must first say a word about the administration of the Assistance Publique in Paris. This enormous organisation is responsible for the upkeep of the hospitals, the dispensaries, the home relief of paupers, the relieving stations (*bureaux de bienfaisance*), the almshouses for old people, and the naval hospitals of Berck and Hendaye. To meet these expenses the Assistance Publique receives 40,000,000 francs a year from the municipality of Paris, it possesses legacies and endowments left by generous benefactors, and, moreover, receives 10 per cent. of the profits of the theatres. The hospitals are free to needy persons and their upkeep is the heaviest item in the expenditure of the Assistance Publique. A very strict check is supposed to be kept on the free admission of all but genuine paupers, and others who can afford to pay a little are expected to contribute 3 or 5 francs a day for medical or surgical treatment respectively, a light enough toll in all conscience. The medical profession and the Assistance Publique have two abuses to fight, the admission to hospital for 3 or 5 francs of individuals who can well afford to be attended at home and the filling up of free beds by well-to-do people to the exclusion of the genuine poor and absolutely destitute class of patient. Dr. Bertillon in a most interesting publication has pointed out amongst other matters that half the deaths in Paris occur in the hospitals, which means, of course, that one half of the inhabitants get charitable medical attendance, although the proportion of indigent people is far from that figure. Much greater vigilance is needed in inquiring into the circumstances of those receiving free treatment.

Accident in a Hospital.

For the last few months the nurses and male attendants of the Paris hospitals have been holding meetings to consider their grievances and the means of ameliorating them. Public attention has recently been drawn anew to them in an unhappy manner. A little girl, aged three years, had been a patient at the Trousseau Hospital suffering from an eruptive fever. The nurse in charge of her gave her a bath without noting properly the temperature of the water and the poor little child was so severely scalded that she died three days later. Judicial proceedings have been instituted and the child's father and the superintendent and nurses of the hospital have given evidence. The nurse in question has been charged with unintentional homicide (*homicide par imprudence*) and three medical men have been instructed to make a post-mortem examination of the body.

The Congresses.

Two congresses and one conference have recently been held in series in Paris. During the week from Oct. 7th to 12th the French Surgical Congress met, which discussed, in addition to the subjects mentioned above, the Influence of the Roentgen Rays on Malignant Tumours and Musculo-tendinous and Nervous Transplantations. The French Urological Association met to discuss the Pathogeny and Treatment of Non-tuberculous Abscess of the Prostate. Lastly, the French Congress of Medicine was opened on Oct. 14th under the presidency of Professor Debove, dean of the Faculty of Medicine. The programme included papers by Dr. Maurice Faure on the Mercurial Treatment of Tabes, the Pathological Physiology and the Re-education of Motor Visceral Troubles in that disease, and on the Causes and Treatment of Primary and Secondary Spastic Palsies. There was a reception by the president and another was given by the municipality of Paris and a terminal banquet took place on Oct. 16th.

Oct. 22nd.

COPENHAGEN.

(FROM OUR OWN CORRESPONDENT.)

The Function of the Pacinian Bodies.

THOUGH the Pacinian bodies have for many years been investigated by a number of observers their special purpose is far from being known with any certainty. Most authorities, however, agree on the probability of their serving in some way or other for the perception of tactile sensations, but so far the problem does not seem to have been solved experimentally. In order to do this Dr. Martin Ramström of Upsala has availed himself of the fact that a region has been found recently in the human body in which, though undoubted Pacinian bodies are present, yet no perception of tactile impressions can be demonstrated. This region is the parietal peritoneum of the anterior abdominal wall. During laparotomies performed by Professor Lennander on patients not under general anæsthesia the part was systematically examined by means of instruments introduced into the abdominal cavity. In this way it was seen that the patients failed to perceive pressure on this parietal peritoneum, nor were they able to distinguish between hot and cold instruments. Still the sensation of pain occurred when the peritoneum was moved a little. Dr. Ramström thinks, therefore, that the Pacinian bodies cannot possibly have anything

to do with the perception of tactile sensations and hopes to demonstrate their real function in the near future.

Suicides and Deaths by Accident in Denmark.

The report on suicides and deaths by accidents of the Statistical Bureau of Denmark for the years 1896–1905 has just been published. The number of suicides was 22·4 per 100,000 individuals, being four times greater in men than in women. Of all deaths in men 2·2 per cent. were due to suicide. Of the male suicides between 25 and 65 years of age every second was a drunkard. More than 600 deaths occurred every year by accident. Of these, 150 happened during work, but only 60 were covered by the Employers' Liability Act. The effect of the drinking habit is apparent here as well. Of the aggregate number of men above 15 years of age (3405) who died by accident, one-fifth were given to excessive drinking. The statistics for men aged from 45 to 65 years present a still darker aspect, one-third of the accidental deaths occurring in drunkards. Of course, the majority of these deaths cannot be prevented but in some respects an improvement might be hoped for, as in deaths from overlying of infants. From 14 to 16 children died each year by falling from open windows; and 40 persons fell, while intoxicated, into the water and were drowned.

Operative Treatment of Catarrhal Appendicitis.

An exceptionally large amount of clinical material forms the basis of a research by Dr. Gunnar Nyström on the result of operative treatment in cases of appendicitis not complicated with purulent peritonitis. The patients, 460 in number, were all operated on by Professor Lennander of Upsala. 389 of the patients have been examined some time (from several months to 16 years) after the operation. The results must be considered very good. Only in one case out of the 460 did death occur in immediate connexion with the operation (from ileus). Some few deaths which occurred during or after the patient's stay in hospital could not be ascribed to the operation. The examination of the 389 patients corroborated the view that removal of the appendix does not shorten the average duration of life. In the majority of the cases the operation relieved the patients entirely of their symptoms. As a rule it was only in cases complicated by chronic digestive trouble that not wholly satisfactory results were attained, but generally even these cases were improved by the operation, one half of them recovering completely. Serious complications immediately connected with the operation were rarely observed and after the stay in hospital such complications were hardly ever seen. In the abdominal cicatrix of only two out of the 389 patients was a hernia found on examination some time after the operation.

The Sterilisation of Milk without Boiling.

In the Blegdams Hospital of Copenhagen Dr. Valdemar Bie has occupied himself with the question of how to supply sterilised or practically sterilised, but not boiled, milk to the babies in the hospital. Boiling of the milk destroys the contained enzymes and alters the properties of the proteids. But even a prolonged heating to 50° or 55° C. after addition of 0·04 per cent. hydrogen peroxide (the method introduced by the Danish engineer Budde some years ago), does not seem to sterilise the milk without bringing about some change in the enzymes and the proteids. Dr. Bie also uses hydrogen peroxide as a disinfectant, because it is the only one which is absolutely innocuous. But he only heats the milk to 35° C.—i.e., a little less than the body temperature. Then he adds one cubic centimetre of hydrogen peroxide (30 per cent. Merck) to 200 cubic centimetres of milk and keeps the bottle for six hours with the thermostat at 35° C. As, however, the milk is not able to decompose all the H_2O_2 added, he cools it down subsequently to 10° C, adds as a catalyser 50 cubic centimetres of a cold watery extract of malt and places the mixture in an ice safe. After from 18 to 24 hours' stay in the ice-safe all the H_2O_2 has been decomposed and sterility has, practically speaking, been attained. Thus ten samples of the purest milk obtainable in Copenhagen contained an average of 62,668 germs in one cubic centimetre before the treatment by Bie's method, after which the average number of germs in one cubic centimetre was only eight.

The Methods of Exhibition of Morphine.

Ragnar Friberger has examined the influence on the action of morphine of the different manners of its exhibition. For that purpose he measured by an original method the diameter of the pupil before and after the administration of morphine and took the myosis obtained as an indication of the action of the drug; he summarises his results as follows. When injected under the skin morphine acts for a considerably longer time than when given by the mouth. Subcutaneous administration of one centigramme of morphine has the same effect as oral administration of three centigrammes when given between meals. The maximum effect of morphine is reached with equal quickness whether it be given by the mouth between meals or injected under the skin. When taken during meals the action of morphine is delayed, and, on the whole, is less pronounced than when taken between meals. Rectal administration has the same effect as oral administration between meals.

Sarcomas in Rats.

In the recently published report of the Cancer Committee of the General Danish Medical Association the discoverer of the inoculable mouse cancer, Professor C. O. Jensen, contributes an interesting communication on Sarcomas in Rats First he lays stress on the vital importance of sufficient material of inoculable tumours for further advance in the study of malignant new growths and on the scarcity which at present obtains of this material. To his knowledge no more than six or eight different strains of mouse carcinomas are now living in the laboratories throughout the world, notwithstanding the eager search that is being made for them everywhere. Spontaneous unmixed sarcomas seem to occur rarely in mice, and none have been found capable of transplantation. Carcinoma is only exceptionally found in rats and only one inoculable tumour of this kind is at this time being experimented with (in Berlin). Sarcoma is more frequent in rats, and American investigators have at present two or three different strains at their disposal. In Europe, however, until now no laboratories seem to have possessed inoculable rat sarcomas. It is therefore interesting that Professor Jensen now disposes of two unmixed malignant sarcomatous growths arising spontaneously in grey variegated rats. Like other malignant growths in rodents these tumours present very eclectic properties. Thus in a series of experiments on rats of the race reared in Professor Jensen's own laboratory the inoculation proved successful in 87·5 per cent., while rats from Hamburg, Berlin, and London were only successfully inoculated in 7·9 per cent. of experiments.

Oct. 19th.

BUDAPEST.

(FROM OUR OWN CORRESPONDENT.)

Small-pox.

Several cases of small-pox have been notified in Hungary since the outbreak of the small-pox epidemics in Vienna. The health department ordered the revaccination of all children under 13 years of age and adults also rushed to the medical men to be vaccinated, so that in less than a week 250,000 persons were vaccinated in Budapest alone. The supply of lymph, owing to the great demand from Vienna and the consequent production of it on a large scale, was sufficient for the protection of even a million persons. No fresh case has been notified during the last fortnight.

Opening of a New Tuberculosis Sanatorium in Békés-Gyula.

The opening ceremony of the Békés-Gyula new sanatorium took place on Oct. 12th. This institution has been built with money collected as voluntary contributions. The sanatorium is situated on a hill which is surrounded by pine forests. It faces the south and on the north it is protected by a mountain. The buildings are ideals of hygienic architecture. For the summer months there are open-air tents and for the winter there are spacious open heated corridors for outdoor use. Although the sanatorium was chiefly erected for the benefit of the poorer classes private rooms, which leave nothing to be desired in the way of comfort and elegance, are provided for paying patients. There are 100 beds and on the opening day all of them were occupied. The professional staff consists of six medical men having special experience; two of them were sent abroad to make themselves acquainted with the methods followed in modern sanatoriums. Spengler's inoculations and Pirquet's test-inoculations will be employed in suitable cases.

The Health of the King of Hungary.

Our King, His Majesty Francis Joseph I., has been suffering from a severe bronchial catarrh attended with rise of temperature. Some Vienna newspapers alarmed the public with statements to the effect that the King was suffering

from a mild attack of apoplexy. According to the latest information His Majesty's condition shows a material improvement.

Oct. 21st.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Annual Meeting of the Canadian Medical Association.

THE fortieth annual meeting of the Canadian Medical Association was held in Montreal on Sept. 11th, 12th, and 13th, under the presidency of Dr. A. McPhedran, professor of medicine in the University of Toronto. There was an extensive programme, much of it being of considerable scientific value. Dr. H. D. Rolleston, London, England, delivered the Address in Medicine; Dr. Ingersoll Olmsted, Hamilton, Ontario, the Address in Surgery; whilst Dr. J. George Adami, professor of pathology in the medical department of McGill University, delivered the Address in Pathology. A new feature of the meeting was the inauguration of a section of laboratory workers. In this section the following papers amongst others were read: On So-called Lymphosarcoma and Hodgkin's Disease, by Dr. C. B. Keenan, Montreal; on Diphtheroid Bacteria in the Nose and Throat of the Sane and Insane, by Dr. W. T. Connell, Kingston, Ontario; the Occurrence of Congenital Adhesions in the Left Common Iliac Vein, by J. Playfair McMurrich, professor of anatomy, University of Toronto; the Bacteriology of Canned Goods, by Professor F. C. Harrison, Ste Anne de Bellevue, Quebec; Note on the Tubercle Bacillus Isolated from Fatal Cases of Primary Cervical Tuberculous Adenitis, by Dr. C. W. Duval, Montreal; the Significance of Certain Chronic Glomerular Changes Obtained in Experimental Nephritis, by Dr. E. C. Dickson and Professor J. J. Mackenzie, Toronto; A New Test for Lactic Acid in Gastric Contents, by Dr. J. L. McPhedran, Toronto; Experiments with a View to Determining the Bactericidal Value of Solutions of Boracic Acid, by Dr. J. C. Fyseche, Montreal; Two Cases of Mould Infection, by Dr. Keenan; An Exhibition of Tracings Illustrating the Physiology of the Respiratory Centre, by Dr. W. S. Morrow, Montreal; Some Further Consideration on the Classification of Tumours, by Professor Adami; and Certain Considerations of the Technique for the Estimation of the Opsonic Index, by Dr. G. W. Ross, Toronto. The surgical section had a discussion on Hypertrophy of the Prostate, Etiology, and Pathology. This was introduced by Dr. George E. Armstrong, Montreal. Dr. F. N. G. Starr (Toronto) followed with the Symptomatology and Diagnosis. The Non-surgical Treatment was discussed by Mr. I. H. Cameron, LL.D., Toronto; and the Surgical by Dr. James Bell, Montreal. There followed, amongst other papers: A Machine for the Forcible Correction of Deformed Feet, by Dr. J. Appleton Nutter, Montreal; Danger Signals in Anæsthesia, by Dr. Samuel Johnston, Toronto; 750 Abdominal Sections and the Lessons they have Taught Me, by Dr. A. Lapthorn Smith, Montreal; A Case of Long-standing Melano-Sarcoma of the Palate (exhibition of the case), by Dr. J. N. Roy, Montreal; Cancer of the Breast, by Dr. Armstrong; the Clinical Side of Ectopic Pregnancy, by Dr. W. W. Chipman, Montreal; Generalised Blastomycosis, by Professor J. J. Mackenzie, Toronto; a Contribution to the Diagnosis of Renal Tuberculosis, by Dr. R. P. Campbell, Montreal; Operative Treatment of Diverticulum of the Bladder, with Report of Case, by Dr. E. M. von Eberts, Montreal; Some Cases of Chronic Pyloric Obstruction Simulating Chronic Cholecystitis, by Dr. A. E. Garrow, Montreal; Notes on the Pathological Anatomy of Congenital Dislocation of the Hip, by Dr. W. G. Turner, Montreal; and Morax-Axenfeld Conjunctivitis, by Dr. S. H. McKee, Montreal. The following programme was disposed of in the Medical Section: The Normal Temperature, by Dr. R. D. Rudolf, Toronto; the Psychology of the Sick-room, by Dr. John Hunter, Toronto; the Treatment of Tuberculosis with Tuberculin, by Dr. Ross; the Treatment of Tuberculosis by Marmorek's Serum, by Dr. A. de Martigny, Montreal; Grocco's Sign of Para-vertebral Triangle of Dulness, by Dr. W. S. Lyman, Montreal; the Irritable Heart, by Dr. Morrow; a Report on some Interesting Clinical Findings in Cases of Brain Tumours Operated upon Recently, by Dr. D. A. Shirres, Montreal; Aneurysm of Cerebral Arteries, by Dr. A. H. Gordon, Montreal; the Rights of Children, by Dr. C. J. C. O. Hastings, Toronto; the Defensive Action of the Products of Metabolism, by Dr. Graham Chambers, Toronto; Metastic Gonorrhœal Inflammation of the Optic Nerve and the Retina, by Dr. Gordon Byers, Montreal; and Notes on Gonorrhœal Endocarditis, by Dr. Ridley Mackenzie, Montreal. Other interesting papers were also read. There was a conjoint meeting of the medical section and the section of laboratory workers at which was presented a discussion on Cerebro-Spinal Meningitis, introduced by Professor Mackenzie, and continued by Dr. H. A. Lafleur and Dr. A. D. Blackader, Montreal. In the general meeting there was a lantern demonstration of radiographs illustrating certain forms of Colles's and Pott's fractures and malformations. This was conducted by Dr. G. P. Girdwood, Montreal. Besides there were numerous clinics held at the Royal Victoria and General Hospitals. The work done in the general sessions was very important. There were adopted a new constitution and by-laws for the Association. These will come into effect at the beginning of the next, or forty-first, annual meeting. They provide for an executive council to be the business body of the Association and for the establishment of a journal to be the official organ of the Association. The executive council will be charged with the appointment of a finance committee of five to publish and to manage the finances of the journal as well as to manage the finances of the Association. The new constitution provides for the affiliation of all the provincial societies and encourages members to come in through the medium of their provincial societies. Two or three important resolutions were adopted. One called for the placing of all cases of cerebro-spinal meningitis under the control of boards of health. The other affirmed the principle of a former resolution relative to the establishment in Canada's Government of a Department of Public Health. It was decided to meet at Ottawa next year and the following were elected officers: President, Dr. F. Montizambert, Director-General of Public Health; general secretary, Dr. George Elliott, Toronto; treasurer, Dr. H. Beaumont Small, Ottawa; local secretary at Ottawa, Dr. William Hackney; executive at Ottawa, Dr. R. W. Powell, Dr. E. B. Echlin, and Dr. Thomas Gibson.

Annual Meeting of the Canadian Medical Protective Association.

The sixth annual meeting of the Canadian Medical Protective Association was held in Montreal on Sept. 12th. This very important and growing society, being a child of the Canadian Medical Association, meets annually with the parent body. Dr. R. W. Powell (Ottawa), the President, presented the annual reports. It showed that since organisation at Winnipeg in 1901 the membership has annually increased until to-day the total is 528. Every case for alleged malpractice which it has undertaken to defend has been done so effectually and successfully. Practically no litigation took place during last year. An important amendment to the constitution was adopted that hereafter candidates applying for admission will be required to be nominated and seconded by two practitioners who are already members of the Protective Association, and that the qualification essential for membership in the Canadian Medical Association is made the basis for admission to the Canadian Medical Protective Association. Dr. R. W. Powell (Ottawa) was re-elected President; Dr. J. O. Camarind (Sherbrooke, Quebec), Vice-President; and Dr. J. Fenton Argue (Ottawa), secretary-treasurer. The President received a hearty vote of thanks for the successful manner in which he had conducted the affairs of the Association. The treasurer reported a balance of over $2000 in the treasury.

Toronto, Oct. 14th.

Obituary.

GEORGE FREDERICK ELLIOTT, M.D. DUB. & OXON., F.R.C.P. LOND.

BY the death of Dr. George Frederick Elliott the city of Hull has lost one of its most distinguished residents. He had attended to his professional duties on Oct. 4th and seemed in his usual health, but on the evening of that day he was attacked with syncope. He rallied for a time but in the early hours of Oct. 6th he became insensible and passed away quietly. He was buried at Filey three days later in the churchyard attached to the old Norman church which stands on the headland overlooking the bay and the well-known Brigg of Filey. At the same time a memorial service was conducted at All Saints, Hull, where Dr. Elliott used to worship and it was largely attended by members of the

medical profession, by representatives of various public bodies, and by a number of personal friends.

Dr. Elliott received his medical education at Trinity College, Dublin, where he graduated as M.B. in 1855 and M.D. in 1866. He also gained the distinctions of M.D. Oxon. *comitatis causâ*[1] in 1867 and F.R.C.P. Lond. in 1883. At the commencement of his career he entered the navy and served in the war with China. He was present at the capture of the Taku Forts and the siege of Canton, for which he held a medal and two clasps. During the Crimean War he was surgeon on board the *Samson* at the blockade of the Baltic and held appointments at Haslar and Chatham. At the close of the war, on the occasion of a visit of the *Samson* to the Port of Hull, the officers, of course including Dr. Elliott, were publicly fêted by the town. After eight years spent in the navy he retired from the service and settled at Stamford in Lincolnshire, where he was appointed physician to the Stamford and Rutland Hospital. In 1866 he was attracted to Hull by a vacancy in the lectureship of medicine in the then Hull School of Medicine and was appointed a physician to the infirmary, a post which he held up to the time of his death. During his 39 years of office he saw many changes, all his old colleagues passed away, whilst the institution increased both in size and usefulness and became a Royal Infirmary. Much against his will Dr. Elliott had decided to retire from the active work of the infirmary and had placed his resignation in the hands of the board of management.

Dr. Elliott was an exceedingly reticent and unassuming man, never mixing in public affairs but giving his whole time to the practice of his profession, to which he was devotedly attached. Whatever tastes and pursuits he may have had in his younger days—for it is said that he was fond of fishing and shooting and that he possessed a facile pencil—he on going to Hull gave up all for the pursuit of his profession. He rarely allowed himself a holiday but when he did so it was to take a rest at his much-beloved Filey where he was able to indulge in his one amusement—sea-bathing. He was wont to say that a fortnight's sea-bathing set him up for a whole year. Dr. Elliott was an omnivorous reader both inside and outside his profession, being specially attracted by the English and American humourists. Though his contributions to medical literature were few, yet when he had occasion to employ his pen he was a polished writer, and though in no sense an orator his remarks were always to the point when he was compelled to speak. To his professional brethren he was courtesy and consideration personified and many of his townspeople have to thank him for numerous acts of kindness and sympathy. In his active days he was one of the leading practitioners in the East Riding and North Lincolnshire and his sound advice was in constant demand. Those who were permitted to enjoy a closer intimacy have lost in him a warm-hearted and sincere friend and one not easy to replace.

Dr. Elliott has left behind him a widow, four sons, and a daughter.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced: Dr. James Carroll, curator of the Army Medical Museum, Washington. Some time ago, in order to study yellow fever, he allowed mosquitoes fresh from yellow fever patients to sting him. Four days afterwards the symptoms of the disease showed themselves. He never fully recovered his health as the heart was affected and this sequela ultimately proved fatal.—Dr. Wilhelm Grandhomme of Frankfort, whose writings on factory and trade hygienics are well known. He was 73 years of age.—Dr. Galliot, director of the French Naval Medical Service.—Dr. Henry Jackson, professor of physiology in the University of Vermont.—Dr. Robby Kossmann, who has just died from septicæmia contracted in the course of his practice, was one of the most remarkable members of the profession in Berlin. He was so thoroughly at home in such diverse fields of knowledge and so gifted with a capacity for bringing all his knowledge to bear on any particular subject that he was always in great request when difficult and intricate questions came before medical committees. He was born in 1849 in Dantzig and after taking his Ph.D. became *privat-docent* of zoology in Heidelberg where he afterwards was promoted to be extraordinary professor of that subject. Some 17 years ago, however, he resigned his position and studied medicine. He settled in private practice in Berlin in 1894 and soon obtained a considerable *clientèle*. His publications include many papers on gynæcological subjects and more especially on those having a medico-legal interest. He was appointed chairman of a commission for the repression of quackery. Apart altogether from medicine and biological science, his pen was active over the signature "K. Gedan" in fiction and the drama, one of his plays being very successfully produced some years ago in Prague.

[1] A notice of the conferring of the degree of M.D. Oxon. on Dr. Elliott will be found in THE LANCET of June 15th, 1867, p. 755. Under the heading of "Admission to Privileges *Comitatis Causa*" the Oxford University Calendar of 1866 states that "Masters of Arts and Bachelors and Doctors of Civil Law, Medicine, or Divinity of the Universities of Cambridge or Dublin may be admitted to the privileges enjoyed by persons of th se several degrees in Oxford, except always the right of voting and the title of Graduates of Oxford." The system of giving degrees in this way ha- long been abolished. Nowadays in circumstances similar to Dr. Elliott's the only course would be to proceed by "incorporation," which is a complicated process.

Medical News.

UNIVERSITY OF CAMBRIDGE.—Mr. R. P. Gregory, M.A., St. John's College, has been appointed University Lecturer in Botany for three years in place of Mr. Hill. Mr. A. M. Smith, B.A., Emmanuel College, has been appointed a Demonstrator in Botany for five years. The General Board of Studies will shortly appoint a University Lecturer in Advanced Human Anatomy at an annual stipend of £50. Applications should be sent to the Vice-Chancellor before Tuesday, Nov. 5th. Dr. W. H. Gaskell has been elected a member of the Senate. Professor G. Sims Woodhead has been appointed a member of the General Board of Studies in place of Dr. D. MacAlister. The following have been appointed electors to professorships: Dr. Langley to that of anatomy; and Dr. Gaskell to that of the Downing Professorship of Medicine. Dr. Cobbett has been appointed a member of the State Medicine Syndicate. The following examiners have been appointed: Pharmacology: Mr. W. E. Dixon, M.A., Downing College; and Professor R Stockman, M.D. Edin. General Pathology: Mr. T. S. P. Strangeways, M.A., St. John's College; and Dr. J. Ritchie. On Oct. 17th the degree of D.Sc., *honoris causâ*, was conferred on Dr. Emil Fischer, professor of chemistry in the University of Berlin. From information received from the tutors the number of students who have entered for medicine is 130.

LONDON SCHOOL OF TROPICAL MEDICINE.—The annual dinner of the London School of Tropical Medicine was held at the Savoy Restaurant on Oct. 21st, following the opening address of the session by Sir Lauder Brunton at the school. Fleet-Surgeon P. W. Bassett-Smith, R.N., was in the chair and the company included Sir William Treacher, K.C.M.G., Sir Patrick Manson, K.C.M.G., Sir Francis H. Lovell, C.M.G., Dr. Guthrie Rankin, Colonel A. de C. Scanlan, Colonel A. Alcock, Colonel A. Duncan, Lieutenant-Colonel C. J. Sarkies, Professor W. F. Nuttall, F.R.S., Professor R. T. Hewlett, Dr. C. W. Daniels (Director of the school), Dr. G. C. Low, Dr. F. M. Sandwith, Dr. T. H. Anderson, Mr. J. Cantlie, Mr. Stephen Paget, Mr. H. S. Wellcome, Mr. P. Michelli, and many others. In proposing the toast of "The London School of Tropical Medicine" the chairman said that 700 ladies and men students of many nationalities had passed through it. He paid a tribute to the untiring energy of Sir Patrick Manson and the personal influence of Mr. Joseph Chamberlain in its development and alluded to the advances made in tropical medicine during the last eight years and the urgent need of the elucidation of diseases such as dysentery and beri-beri by study on the spot. He further alluded to the wisdom of endowing research work, for as the recent history of Mediterranean fever showed it resulted in the saving both of much suffering and of large sums of money. Sir William Treacher, in reply, strongly endorsed the value of the school and pointed out that though it had been twice enlarged its resources were still strained. A commencement of an endowment had been made and it was hoped that this might be increased to £25 000. Help in the matter was urgently needed. The success of the school was largely due to Dr. Daniels, the present director, and his predecessors, and it was further assured by the presidency of Mr. Percival Nairn. Mr. J. Cantlie proposed "The Visitors," coupled with the name of Mr. H. S. Wellcome, whose name, he said, was revered

in the Soudan where Dr. A. Balfour had done such good work at the laboratories in Khartoum founded by Mr. Wellcome. That gentleman, in reply, expressed his wonder at the difficulty in arousing the country to an interest in the work of tropical medicine. The success of the Egyptian laboratories owed much to Lord Cromer, the Sirdar, and the splendid work of Dr. Balfour. The toast of "The Chairman" was proposed by Sir Patrick Manson who spoke warmly of his research into the preventive treatment of Malta fever, in which he looked for something and—a rare virtue in bacteriologists—had the courage to say he had found nothing. He commented on the contrast between the American Governmental endowments of tropical medicine research, especially in the Philippines, and the scarcity of endowment of our own schools. The chairman, before replying, gave the "Immortal Memory of Nelson," for the evening was that of Trafalgar Day.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL.—Arrangements are being made at this hospital whereby it will shortly be possible to admit 14 medical students per month (168 per annum) to the practice of the hospital in order to receive preliminary instruction in practical midwifery in accordance with the recommendations of the General Medical Council. This instruction will include: (1) Practical instruction in the methods of examination of pregnant women; (2) delivery of women in labour under the direct supervision of a medical officer of the hospital; (3) practical instruction in the treatment of the mother and child during the puerperium, including clinics held four times weekly by the visiting medical staff; and (4) instruction in the clinical laboratory of the hospital. There is accommodation at present for four students per month and this will be increased as necessary. Students will be accommodated in the residential college adjoining the hospital. Further particulars may be obtained from the secretary of the hospital.

THE OPERATIVE TREATMENT OF CANCER.—Professor E. Goldmann of Freiburg, in the course of an address on Malignant Disease delivered before a meeting convened by the Surgical Section of the Royal Society of Medicine held on Oct. 23rd, commented on the defensive substances manufactured in the human body against malignant tumours. Present knowledge enabled the inference to be made that the body's first line of defence was established on the boundary of an invading growth. That explained those cases in which cancers of slow growth and long duration had been removed with the result that the patients have returned in a short time with recurrences of an alarming nature which have grown rapidly. It appeared to Professor Goldmann that in such cases the surgeon's knife had done harm, for by removing the growth he has destroyed the barrier of defence which the body has carefully raised up during the long period of the tumours existence. He thought that the time had come to consider whether stereotyped surgical interference was the only remedy of the future for malignant growths. In a future issue of THE LANCET we hope to publish Professor Goldmann's address.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.—At the stated annual meeting held on Oct. 18th the following officers were elected for the coming year:—President: Dr. Joseph M. Redmond. Vice-President: Dr. Conolly Norman. Censors: Dr. Conolly Norman, Mr. John Murphy, Dr. H. Jellett, and Dr. R. T. Smith. Additional examiners to take the place of an absent censor or examiner: medical jurisprudence and hygiene, Mr. A. Nixon Montgomery; midwifery, Dr. J. H. R. Glenn; and medicine, Dr. J. A. Matson. Examiners for the licence to practise midwifery: Mr. A. J. Horne and Mr. T. H. Wilson. Examiners for the Membership: clinical medicine, Dr. Wallace Beatty and Mr. John Murphy; practice of medicine, Dr. J. F. O'Carroll and Dr. R. T. Smith; and pathology and bacteriology, Dr. H. C. Earl and Dr. O'Sullivan. Supplemental examiners under the Conjoint Examination Scheme: biology, Dr. T. Percy C. Kirkpatrick; chemistry, Mr. E. Lapper and Dr. N. McI. Falkiner; physics, Dr. G. Peacocke and Dr. W. A. Winter; pharmacy, materia medica and therapeutics, Dr. H. C. Drury and Dr. M. Dempsey; physiology, Dr. Earl; pathology, Dr. F. C. Purser; medicine, Dr. A. R. Parsons and Dr. W. J Thompson; and hygiene and forensic medicine, Dr. W. R Dawson. Examiners for the Conjoint Diploma in Public Health: hygiene, Dr. H. T. Bewley; chemistry, Mr. Lapper; and meteorology, Dr. Winter. Extern examiners for the Conjoint Preliminary Examination: languages, Mr. E. H. Alton, F.T.C.D.; science, Mr. R. A. P. Rogers, F.T.C.D.; and Irish, Dr. Connor J. O'L. Maguire. Representative on the General Medical Council: Sir John W. Moore. Representatives on the committee of management: Dr. Walter G. Smith, Sir John W. Moore, and Dr. James Craig. Treasurer: Dr. Bewley. Registrar: Dr. Craig. Librarian: Mr. R. G. J. Phelps. Architect: Mr. A. E. Murray, C.E. Law agents: Messrs. S. Gordon and Son. Agents to manage the trust estate: Messrs. Townshend. During the proceedings Dr. James Spencer Sheill was elected a Fellow of the College.

SOCIETY OF ANÆSTHETISTS.—The annual dinner of the members of this society was held on Oct. 18th at the Café Monico. Dr. R. J. Probyn-Williams, the President, was in the chair, and there were 38 members and friends present. Mr. J. Warrington Haward, one of the guests of the evening, proposed the toast of "Success to the Society of Anæsthetists," and Dr. A. D. Waller, the other official guest, replied to the toast of "The Guests" which was proposed by Dr. J. F. W. Silk. Some very enjoyable music was provided by Miss Phyllis Archibald, Mr. Frederick Keel, and Mr. Felix Swinstead.

DONATIONS AND BEQUESTS.—Dr. Edward Capron, formerly of Northwoods Asylum, Winterbourne, Gloucestershire, and Shere, Surrey, has left estate valued at £21,717. After bequeathing about £2000 to charities, and subject to a few small legacies, the residue of his property is to go to the endowment fund of the Royal Surrey County Hospital.—Mrs. J. Roeckel of Clifton has bequeathed £500 to the Bristol Children's Hospital.—The Chelsea Hospital for Women has received from Earl Cadogan a donation of £500 and the council has resolved to name a ward of the hospital in memory of its late benefactress the Countess of Cadogan.

PHYSICAL SOCIETY OF GUY'S HOSPITAL.—A dinner was held on Oct. 4th in the College previously to the meeting, Mr. H. Cosmo Bonsor (treasurer) being in the chair. A move was then made to the new lecture theatre where Sir Samuel Wilks took the chair and, after the society's general business was concluded, at once called on Dr. G. A. Gibson to deliver his address on "Past and Present," an abstract of which appeared in THE LANCET of Oct. 12th, p. 1009. After the address the meeting concluded with votes of thanks to Dr. Gibson and Sir Samuel Wilks.

LYDNEY AND DISTRICT COTTAGE HOSPITAL.—The Cottage Hospital for Lydney, Gloucestershire, has been carried on for 30 years in premises which have been rented from the Aylbarton Union and which were hardly in accordance with modern requirements. It has long been felt that a new building was required. A site has now been given and Mr. R. Thomas has contributed £1200 towards the building. The hospital will contain eight beds, operation rooms, &c. The work will be commenced immediately.

THE Medical Section of the Royal Society of Medicine held its first meeting on Oct. 22nd, Dr. S. J. Gee, the President, being in the chair. After the President had delivered some graceful and scholarly opening remarks a discussion on the Complications and Sequelæ of Pneumonia was opened by Dr. Hector W. G. Mackenzie. He was followed by Mr. A. G. R. Foulerton, Dr. W. P. Herringham, and Dr. W. Pasteur, and the debate was then adjourned to 5 P.M. on Nov. 5th. A report of the meeting will be published in our columns in an early issue.

MEDICAL SICKNESS, ANNUITY, AND LIFE ASSURANCE SOCIETY.—The usual monthly meeting of the executive committee of this society was held at 6, Catherine-street, London, W.C., on Oct. 11th. There were present: Dr. F. de Havilland-Hall, in the chair Mr. J. Brindley James, Dr. M. G. Biggs, Mr. Frederick Wallace, Dr. J. W. Hunt, Dr. W. Knowsley Sibley, Dr. F. J. Allan, Mr. F. S. Edwards, Mr. J. F. Colyer, Dr. M. Greenwood, Dr. Frederick S. Palmer, Dr. Walter Smith, Dr. H. A. Sansom, and Dr. J. B. Ball. The committee arranged for the investment of about £7000, the surplus produced by the society's operations through the summer. The rate secured was 3¾ per cent. and this leaves a large margin over the rates assumed when the business of the society has been valued. The funds of the society now amount to over £215,000, of which £14,000 are treated as an investment reserve to cover any fall in the price of the Stock Exchange securities held by the society or any losses that may be incurred in any other manner.

IN consequence of the redecoration having been completed earlier than was expected the Library of the Royal College of Surgeons of England will be opened on Monday next, Oct. 28th.

LONG SERVICE AS A CORONER.—Mr. Samuel Craddock, M.R.C.S. Eng., L.S.A., on Oct. 15th celebrated the fortieth anniversary of his appointment as coroner for North Somerset.

DEATHS OF CENTENARIANS.—The death took place at Dinian Hall, Anglesey, on Oct. 13th, of the Rev. H. Prichard who in February last attained the hundredth anniversary of his birthday and was the recipient of congratulations from the King.—The funeral took place at Torquay cemetery, on Oct. 17th, of Mrs. Emma Ross who reached her 103rd year on Sept. 16th last.

ST. BARTHOLOMEW'S HOSPITAL.—A conversazione was given on Oct. 23rd by the medical staff and lecturers of the medical school of St. Bartholomew's Hospital, by kind permission of the treasurer and almoners of the Ancient and Royal Foundation, in the new out-patient and special department block, so recently opened by His Royal Highness the Prince of Wales. There was a large and distinguished gathering, the guests including Lord and Lady Ludlow, Sir Joseph and Lady Dimsdale, Sir Thomas Smith, Bart., the Provost of University College, the Principal of King's College, Chairman of the London County Council, Sir Philip Magnus, M.P., Sir Dyce Duckworth, Sir Edward Letchworth, the Dean of the Faculty of Medicine of London University, the Master of the Gunmakers' Company, the Master of the Joiners' Company, the Prime Warden of the Sadlers' Company, Senior Warden of the Apothecaries' Company, Professor Vernon Harcourt, Sir Michael B. Nairn, Dr. P. H. Pye-Smith, Mr. Alfred Willett, Mr. C. H. Golding-Bird, and many others. They were received by the senior physician and the senior surgeon to the hospital and afterwards dispersed through the building. The ground floor is chiefly occupied by a lofty, well-ventilated, and thoroughly serviceable waiting hall which had been beautifully decorated for the occasion with flowers. Here the band of the 1st Life Guards gave selections of music throughout the evening. On the first floor are the medical and surgical out-patient departments, each consisting of a suite of rooms and each being entirely self-contained. So adequately and yet simply furnished are these departments that it would be difficult to find better buildings of their kind whether at home or broad. In the medical waiting-room, a magnificent chamber, was shown a unique collection of old prints, and other objects of historical and personal interest associated with the long past of the hospital. It is needless to say that this attracted great attention. In the surgical consulting-room an exhibition was given illustrating the important part that pathology takes in the service of the sick poor, and it proved conclusively the necessity and therefore the great value of the new pathological block which is now in course of erection and for which funds are needed. The public have no hesitation in subscribing towards the alleviation of suffering when that suffering actually exists but they think twice before giving donations towards the perfection of a science such as pathology, one main object of which is the prevention of those diseases which entail this very suffering. On the next floor the nursing staff of the hospital demonstrated how their wise minds and deft fingers could do much to ease the irksomeness of many a day upon a sick bed. For them there is in contemplation the building in the near future of a home which shall not only be worthy of the hospital but consistent with all the hard work done and good service rendered by them. It would be a deed sure of lasting gratitude to present the money required for the erection of this home. On this floor again are the special departments for dealing with eye, throat and ear, dental surgery, diseases of the skin, deformities, and the electrical department. The departments which have been mentioned do not exhaust the capabilities of this comprehensive building. The fine dispensary and pharmaceutical laboratory are fully up to date and show the perfection to which the dispensing art has been brought. The hospital kitchen was an object of great interest. It was long past midnight when the last guest left and everyone who had been present agreed that a new and most propitious era had dawned upon the Royal Hospital of St. Bartholomew which had thrown open its doors to suffering humanity upon that very site for upwards of 800 years.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

ALLEN, SYDNEY, M.D., F.R.C.S., has been appointed Clinical Assistant to the Chelsea Hospital for Women.

DINGLE, PERCIVAL A., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Radiographer to the North-Eastern Hospital, Hackney-road.

HATHERELL, ROBERT RATCLIFFE, M.R.C.S., L.S.A., has been appointed Medical Officer and Public Vaccinator for the Topsham District by the St. Thomas's (Exeter) Board of Guardians, and also Certifying Surgeon under the Factory and Workshop Act for the Topsham District of the county of Devon.

MCCOLLUM, J., M.B., has been appointed Pathologist to the City of London Hospital for Diseases of the Chest.

NEAVE, L. DIGBY, M.R.C.S., L.R.C.P. Lond., has been re-appointed House Physician to the City of London Hospital for Diseases of the Chest.

PRATT, J. H., M.R.C.S., L.R.C.P. Lond., has been appointed House Physician to the City of London Hospital for Diseases of the Chest.

WRIGLEY, P. R., F.R.C.S. Eng., has been appointed Surgeon for Children at the Manchester Northern Hospital for Women and Children.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE.—Examination of Candidates for not less than 30 Commissions.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Senior and Junior Resident Medical Officers for six months. Salary at rate of £20 and £10 respectively, with board and lodging.

BIRMINGHAM GENERAL DISPENSARY.—Resident Surgeon, unmarried. Salary £150 per annum, with rooms, fire, lights, and attendance.

BRENTWOOD, ESSEX COUNTY ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, &c.

BRISTOL GENERAL HOSPITAL.—House Surgeon, House Physician, Casualty House Surgeon, and Assistant House Physician. Salaries £60 per annum, with board, residence, &c.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House Surgeon. Salary £50 per annum, with board, rooms, and attendance.

CARLISLE NON-PROVIDENT DISPENSARY.—Resident Medical Officer. Salary £150 per annum, with apartments.

CHEDDLETON, NEAR LEEK, STAFFORDSHIRE COUNTY ASYLUM.—Assistant Medical Officer for about six months. Salary 75 guineas, with board, apartments, and laundry.

CHELSEA INFIRMARY, Cale-street, S.W.—Assistant Medical Officer. Salary £120, rising to £150 per annum, with board, washing, apartments, &c.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Senior and Junior House Surgeons. Salary of former £100, and of the latter £60 per annum, with rooms, board, washing, and attendance.

DORCHESTER, COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £140, rising to £180, with board, &c.

DUBLIN, ROYAL NATIONAL HOSPITAL FOR CONSUMPTION FOR IRELAND.—Resident Medical Officer. Salary £300 per annum, with house.

GLASGOW PROVINCIAL COMMITTEE FOR THE TRAINING OF TEACHERS.—Assistant Lecturers on Hygiene. Salary £100 per annum.

GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and washing.

HARTLEPOOLS HOSPITAL.—House Surgeon. Salary £100 per annum, with board, washing, and laundry.

HASTINGS, ST. LEONARDS, AND EAST SUSSEX HOSPITAL.—Assistant House Surgeon for six months. Salary £20, with residence, board, and washing. Also Honorary Assistant Physician.

HELLESDON-NEXT-NORWICH, NORWICH CITY ASYLUM.—Assistant Medical Officer, unmarried. Salary £130 per annum, with rooms, board, laundry, and attendance.

IPSWICH, EAST SUFFOLK HOSPITAL.—Third House Surgeon. Salary £50 per annum, with board, attendance, and washing.

KENT AND CANTERBURY HOSPITAL.—House Physician, also House Surgeon, both unmarried. Salaries £90 per annum, with board and lodging.

LANCASTER COUNTY LUNATIC ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £250, with board, lodging, and washing.

LEEDS PUBLIC DISPENSARY.—Honorary Physician.

LEICESTER, LEICESTERSHIRE AND RUTLAND ASYLUM.—Junior Medical Officer. Salary £130, rising to £160, with board, lodging, and washing.

LENZIE, WOODILEE ASYLUM.—Assistant Medical Officer. Salary £150 per annum, with board, lodging, &c.

LIVERPOOL, HIGHFIELD INFIRMARY, Knotty Ash.—Medical Superintendent, unmarried. Salary £200 per annum, with rations, washing, &c.

LIVERPOOL ROYAL INFIRMARY.—Honorary Surgeon.

LIVERPOOL STANLEY HOSPITAL.—Third House Surgeon. Salary £60 per annum, with board, residence, and washing. Also Honorary Dental Surgeon.

LIVERPOOL WORKHOUSE, Brownlow Hill.—Assistant Medical Officer. Salary £100 per annum, with rations.

LONDON COUNTY ASYLUM, Cane Hill, Coulsdon, Surrey.—Junior Assistant Medical Officer. Salary £150 a year, with board, apartments, and washing.

LONDON SKIN HOSPITAL, Fitzroy-square, W.—Honorary Medical Officer.

MIDDLESEX HOSPITAL, W.—Surgeon. Also Assistant Surgeon.

MIDHURST, SUSSEX, KING EDWARD VII. SANATORIUM.—Pathologist, unmarried. Salary £250 per annum, with board, lodging, and attendance.

MILLER HOSPITAL, Greenwich-road, S.E.—House Surgeon for six months. Salary at rate of £80 per annum, with board, attendance, and washing.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead and Northwood, Middlesex.—Honorary Radiographer. Also Honorary Dental Surgeon.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—Physician-in-Charge of the Skin Department.

PARTICK, BURGH OF, KNIGHTSWOOD HOSPITAL.—Resident Medical Officer. Salary £100.

PETERBOROUGH INFIRMARY.—House Surgeon. Salary £100 per annum, with residence, board, and laundry.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary at rate of £75 per annum, with board, residence, and washing. Also House Surgeon. Salary £100 per annum, with board, residence, and washing.

READING, ROYAL BERKSHIRE HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

REDHILL, EARLSWOOD ASYLUM.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150, with board, lodging, and washing.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester-square.—Dental Surgeon. Also Assistant Dental Surgeon.

ROYAL EAR HOSPITAL, 43, Dean-street, Soho, London.—House Surgeon (non-resident). Salary £40 per annum.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, Great Portland-street, W.—Assistant Anæsthetist. Salary 25 guineas per annum.

ST. LEONARD, SHOREDITCH, INFIRMARY, 204, Hoxton-street, N.—Second Assistant Medical Officer. Salary £100 per annum, with rations, washing, and apartments.

ST. MARY'S HOSPITAL MEDICAL SCHOOL, Paddington, W.—Demonstrator of Biology. Salary £70 per annum.

SUNDERLAND INFIRMARY.—House Surgeon. Salary £80 per annum, with board, residence, and washing.

VICTORIA HOSPITAL FOR CHILDREN, Tite-street, Chelsea, S.W.—Honorary Anæsthetist.

WAKEFIELD, CLAYTON HOSPITAL.—Two House Surgeons, unmarried. Salary of Senior £120 and of Junior £80 per annum, with board, lodging, and washing.

WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £150, rising to £180 per annum, with apartments, board, washing, and attendance.

WEST END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM, PARALYSIS, AND EPILEPSY, 73, Welbeck-street, W.—Honorary Medical Officer in charge of the Electrical Department.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Senior House Physician, House Physician, and Second House Surgeon. Salaries £100, £80, and £80 per annum respectively, with board, lodging, and laundry. Also Honorary Assistant Physician.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory and Workshop Act at Avonbridge, in the county of Stirling; and at Sherborne, in the county of Dorset.

Births, Marriages, and Deaths.

BIRTH.

RICHMOND.—On Oct. 20th, at Drayton-gardens, S.W., the wife of W. Stephenson Richmond, M.R.C.S. Eng., of a son.

MARRIAGES.

BATTEN—STEVENSON.—On Oct. 19th, at Holy Trinity Church, Paddington, Frederick Eustace Batten, M.D., to Jean Evelyn, youngest daughter of J. J. Stevenson, F.S.A.

HARRIES—LYON.—On Thursday, Oct. 17th, Arthur J. Harries, M.D., of 30, St. James's-square, Pall Mall, S.W., to Clara, widow of the late Reuben Lyon, formerly of Johannesburg, South Africa. No cards.

DEATHS.

DOLAN.—On Oct. 22nd, at Horton House, Halifax, in his 64th year, Thomas Michael Dolan, M.D., J.P.

STEPHENS.—On Oct. 17th, at Preston, Brighton, Helen Wordsworth, the very dearly beloved wife of William J. Stephens, L.R.C.P. (late of Old Steine, Brighton), and daughter of the late F. W. Johnson, M.D., of Watlington, Norfolk.

WATSON.—On Oct. 19th, at "Greystones," Porchester-road, Newbury, Henry Watson, M.D., J.P., aged 73. Coroner of the Borough of Newbury for nearly 30 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SOCIAL QUESTIONS AND FEMALE HELPERS.

THE new Act of Incorporation for the town of Zürich, which was passed last September, provides for the establishment of a department for the care and protection of children (Kinderfürsorgeamt). The passing of some such measure had been anticipated by a committee which has already made arrangements for holding a course for the training of helpers in social improvement during the first six months of next year. Two ladies of experience are in charge of the arrangements and the Board of Education has promised to exercise supervision. The objects of the course are threefold: to introduce girls and women who are interested in philanthropic work to the problems of child protection and to train them to coöperate rationally in social endeavour; to train inspectresses of boarded-out children and managéresses of day homes, crèches, and play schools; and to give members an opportunity of learning so much of the training and education of children as can be applied with profit in family life. The conditions of entry are as follows. The candidate must be 18 years old at least and must pay a fee of 50 francs; the number admitted to the course will not exceed 15. The syllabus of instruction is as follows. Practical part: (*a*) Work in the following institutions: (1) children's nursing home, women's wards in the maternity hospital, and the children's ward of the orthopædic institute; (2) crèches, town kindergarten, day homes, and the clinique of the Children's Hospital; and (3) office controlling boarded-out children and office of the Society for Prevention of Cruelty to Children; (*b*) manual work, elementary and Frobelian courses; and (*c*) visits to primary schools, classes for weak-minded children, and blind and deaf asylums. Theoretical part: Lecture courses: (1) Review of the present condition and the aims of child protection; (2) the hygiene and illnesses of the child; (3) character training and religious instruction; (4) the child in the working-class family; (5) the child as a legal personality; (6) historical sketches and biographies; and (7) light and air. Further information about these courses can be obtained from Fräulein M. Fierz, Schanzengasse 22, Zürich. Information about the Frankfurt courses, which are of much shorter duration, can be obtained from Dr. C. J. Klumker, Zentrale für Private Fürsorge in Frankfurt-am-Main.

A MEDICAL BADGE.

To the Editors of THE LANCET.

SIRS,—Mr. G. F. Hentsch is pleased to be, as Scott hath it—"fa-ce-ti-ous"—and replying to him in his own vein I will agree with him if he wishes to retain the frock coat and high hat of the period, provided the coat be lengthened two or three inches and the trousers discarded as quite superfluous, also that an Æsculapian weathercock, to serve a double purpose, surmount the high hat for the use of wayside passengers. I do not think the complex finger ring would prove a convenient badge to busy surgeons. In reply to "Senex," the small badge I suggested would be worn and displayed only at the will of the proprietor and should be easily obtained at small cost if generally approved. It shows on the one side that its wearer is a medical man (a red cross on a white ground) and on the other his professional status, whether a consultant or practising physician or surgeon, or medical officer of health, or general practitioner, and whether his qualifications are English, Scotch, or Irish, gold signifying honorary, blue medical, red surgical, and yellow sanitary. That these are details of interest at a medical assembly where all are strangers I have found out by experience.

I am, Sirs, yours faithfully,

Tenbury, Oct. 21st, 1907. JOHN GOOD.

PS.—I have asked a firm what would be the probable cost of such a badge as I have described but have not yet received an answer.—J. G.

THE BRITISH MUSEUM.

ACCORDING to an official list of the acquisitions made during the past year there has been added to the collection in the Department of MSS. the journal of John Law, surgeon of the *Discovery*, on the third voyage of Captain James Cook to the South Seas, with full particulars of the death of Captain Cook at Hawaii, 1778–9, presented by Mr. C. G. Lawrence-Law. To the Department of Oriental Printed Books and MSS. there has been added a Hebrew manuscript "Seri-hag-gûf," a treatise on medicine by Nathan b. Joseph Palquera, dated A.M. 5192 (A.D. 1432). In the Department of British and Mediæval Antiquities there has been placed a Dyak medicine-man's basket containing charms. Sir E. Ray Lankester's report on the Natural History Department, South Kensington, states that having regard to the importance of a study of blood-sucking flies in connexion with the dissemination of diseases due to micro-organisms, especially in tropical countries, the trustees propose to continue the series of publications on these insects, a commencement of which was made by the issue of the Monographs of Mosquitoes and Tsetse Flies. The material available being insufficient for this purpose the assistance of the Foreign Office, Colonial Office, and India Office has been obtained

in the distribution of copies of a circular letter and pamphlet on the subject to the officials of those departments serving abroad with a view to the formation of a collection of specimens to serve as the basis of the proposed monographs. Considerable collections of flies, &c., have already been received from all parts of the world and are being worked out. In the meantime the trustees have published a volume of Illustrations of British Blood-sucking Flies, with notes by E. E. Austen. The work in connexion with the section of economic zoology during the year has had reference chiefly to insects. The questions submitted have mostly been from medical men abroad who are investigating the spread of disease by the agency of insects and also from persons who ask for the names of pests or for advice as to the best method of destroying them. The following are some of the subjects of inquiry: 1. The "nimetta or nemetti fly" of Dongola, sent from Khartoum for identification, with the note that, "besides biting, the flies are an intolerable nuisance through getting into the nose and eyes, causing all work to be suspended." The species proved to be simulium griseicollis. 2. Inquiry whether glossina palpalis, one of the tsetse flies, occurs in South Africa, and whether any other species of glossina has been shown to carry trypanosoma Gambiense. And from another correspondent, whether glossina palpalis is limited by altitude and always lives in close proximity to large rivers and lakes. Glossina palpalis does not occur in South Africa, and even glossina morsitans is not found south of St. Lucia Lake. At the time of writing no species of glossina other than glossina palpalis had yet been proved to carry trypanosoma Gambiense, but since there is reason to believe that several species of glossina besides morsitans can carry trypanosoma Brucei, it is quite possible that glossina palpalis is not the only species capable of conveying trypanosoma Gambiense. All available evidence goes to show that glossina palpalis is only found in close proximity to water (which may, however, be quite a small stream), and it is unlikely that it is an exception to the rule that tsetse flies are not met with at altitudes above 3000 or 4000 feet. 3. Fly sent from Mauritius as being found to contain trypanosomes. Species proved to be stomoxys nigra. 4. Questions as to swarms of common house fly and where they come from. They normally breed in horse-dung.

THE LATE DR. J. P. MAGUIRE.

To the Editors of THE LANCET.

SIRS,—On behalf of the widow of the late Dr. J. P. Maguire I thank you for the assistance you have given by publishing my appeal in your columns. Appended hereto is a list of names of those who have generously subscribed and who now have the satisfaction of knowing that their charitable and kindly action has rescued this deserving case from penury, enabled her to pay the expenses of training as a midwifery nurse, and so earn her living in the future. I intend to close the list on Nov. 9th, and as the widow has many expenses to meet I hope to receive some more subscriptions before the list is closed.

I am, Sirs, yours faithfully,

Ballinrobe, Co. Mayo, Oct. 18th, 1907. R. B. MAHON.

	£	s.	d.
Amount already acknowledged	23	9	0
Mr. M. F. Hession, Tuam	1	0	0
Mr. T. McCarthy, Sherborne...	1	1	0
Dr. James Little, Dublin	1	1	0
Dr. G. Govan, Cockermouth	1	1	0
Dr. Lombe Atthill, Monkstown Castle, Co. Dublin	2	2	0
"Anon," Wolverhampton	0	10	0
Dr. J. Galwey Cooke, Londonderry	1	1	0
"A. F."	2	2	0
Mr. J. Medley Wood, Bournemouth	0	10	6
"C. E. C."	1	0	0
Dr. J. F. Keenan, Ballinalee, Edgeworthstown...	1	0	0
Mr. M. McManus, London	2	2	0
"H. R. L."	2	0	0
Mr. Frank Godfrey, Nettlestone, I. of W. ...	0	10	0
Mr. E. Murphy, Cork ...	0	10	0
Mr. W. J. O'Sullivan, Lisdoonvarna...	1	1	0
"D."	0	7	6
Dr. J. B. Story, Dublin	1	0	0
Dr. R. Allan Bennett, Saltburn-by-the-Sea ...	1	1	0
Mrs. M. H. Bennett, Saltburn-by-the-Sea ...	1	1	0
"M.D."	0	10	0
"K."	0	10	0
Mr. J. J. MacGrath, Dunfanaghy, Co. Donegal	1	1	0
Dr. Walter G. Smith, Dublin	1	0	0
Captain W. Watson Scarlett, R.A.M.C., Bath ...	1		0
Mr. J. F. O'Malley, London	1	1	0
Mr. G. Baynton Forge, West Malling, Kent ...	2	2	0
	£57	15	0
Disbursed to date ...	6	0	0
Balance in hand ...	£51	15	0

AN IMPROVED RAILWAY MILK CHURN.

FROM a hygienic point of view the carriage of milk by rail is unsatisfactory in several respects. The average churn is not generally constructed to protect the milk from the invasion of railway dirt or any filth that easily accumulates on the lid, while there is a good deal of wastage owing to the escape of milk through a loosely fitted cover. Mr. George A. Pritchard, a steward of St. Pancras Infirmary, Dartmouth Park Hill has been impressed with this particular defect in connexion with his duties at the infirmary, and ultimately he designed a new method of closing the churn which prevents the milk from being contaminated and from being spilt. One decided advantage of the invention is that it may be attached to existing types of churn. Upon the shoulder of the churn is secured an upstanding rim so "machined" at the top as to form a flat surface. The lid is slightly curved (convex) and has also a true surface or flange and just below its edge is a kind of gutter with a series of holes cut through the wall of the churn which provide for the drainage of any water that falls upon it. The water thus drains outside the churn instead of into it. The lid is kept firmly in position by means of a spring, so that the rim of the churn and the edge of the lid are tight. In a word, the lid serves the same purpose as do the roof and gutters of a house when carrying the rain away. There is a ventilator provided in the middle of the cover. A model of the churn was submitted to us and a careful inspection of its parts and plan convinced us of the important hygienic improvement which this device effects.

THE FALSETTO VOICE.

To the Editors of THE LANCET.

SIRS,—"L.," whose query on this subject appeared in THE LANCET of Oct. 19th, p. 1133, will find in the issue of Jan. 27th, 1906, a long abstract of an address on the Scientific Aspect of Voice Development, delivered before the Society of Arts by Dr. W. A. Aikin. I recollect that he made a casual reference to the falsetto voice and this might perhaps be found in the *Journal of the Society of Arts*. Many authors have written on the subject of voice production. One of the most recent is Dr. Wesley Mills, professor of physiology in McGill University, Montreal. He says that the term "falsetto voice" is applied "only to that special modification of the male voice seldom employed now and almost never except by tenors."

I am, Sirs, yours faithfully,

Oct. 22nd, 1907. VOX HUMANA.

MR. G. RENDLE, writing from St. Thomas's Hospital, says:—In reply to your correspondent's inquiry about the falsetto voice he will find some information on the subject in Bristowe's Lumleian lectures for 1879, on Voice and Speech.

THE FIXATION OF ATMOSPHERIC NITROGEN.

IN the *Scientific American* of Oct. 12th Mr. F. S. de Brazza gives an account of a large factory which has been established in the province of Chieti in Italy for carrying out a new process for the fixation of the atmospheric nitrogen. The process in question was discovered by Professor Frank of Charlottenburg and Dr. Caro, and depends on the fact that calcium cyanamide, $CaCN_2$, is produced when nitrogen is passed over calcium carbide raised to a temperature of 1000° C. All the nitrogen in this substance when united with water under high pressure is converted into ammonia, the equation being $CaCN_2 + 3H_2O = CaCO_3 + 2NH_3$. Before the atmospheric nitrogen is passed over the heated calcium carbide it must be freed from the oxygen with which it is mixed. For this purpose an economical separation of the gases is obtained by the fractional "distillation" of liquid air, the boiling points of liquid nitrogen and of liquid oxygen being different. About two hours' heating in contact with a stream of pure nitrogen is required for the conversion of calcium carbide into calcium cyanamide. The resulting product, as obtained from the retort, has the appearance of a very dark mass composed of extremely fine crystals mixed with free carbon.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Do any of your readers happen to know anyone who would care to adopt a healthy male baby of two months, illegitimately born, but whose parents' social position and medical history will bear every investigation. All particulars on application to,

Yours faithfully,

STANLEY NOBLE, M.D. Brux.

96, King's-road, Brighton, Oct. 16th, 1907.

THE FIRESIDE GLOVE.

THIS is a lined fingerless black velveteen glove intended for use in protecting the hand from heat and dirt whilst working about a fireplace, and more especially for putting lumps of coal silently on the fire, an undoubted desideratum in a sick room. The glove is well adapted for this purpose and may be obtained for a small sum from the Manager, 183, Wrotham-road, Gravesend.

LEUCOPLAKIA.

To the Editors of THE LANCET.

SIRS,—I should be much obliged if any of your readers could tell me if there is any good treatise on the above disease, or could suggest best treatment.

I am, Sirs, yours faithfully,

Oct. 22nd, 1907. DUBITUS.

CONFINEMENT STATISTICS.

To the Editors of THE LANCET.

SIRS,—Dr. G. Porter Mathew's small book (71 pp., 12mo) "Clinical Observations on 2030 Obstetric Cases," was published in 1893 by Simpkin and Co. Statistics are given in the reports of the obstetrical department in the annual volumes of St. Thomas's Hospital Reports.

I am, Sirs, yours faithfully,

St. Thomas's Hospital, Oct. 18th, 1907. G. RENDLE, Librarian.

Ovary.—The operator is the best judge of the means and social position of the patient, the value of the operation, and of his own services. There is no absolute fee. A specialist or consultant might

reasonably claim a larger fee than a general practitioner but for so good a service the latter should be paid as much as the patient can afford. The fee should be worthy of the operation. Something, too, depends on the currrent fees of the neighbourhood.

Shiverer.—Our remarks were based on general considerations. We can hardly undertake to recommend a particular or proprietary material, but we may add that the lightest material can be warm provided it is an efficient insulator. Such conditions are fulfilled in really good woollen goods unmixed with cotton, particularly as they contain much enmeshed air.

M.D., F.R.C.P., the postmark of whose letter is Leeds, has not inclosed his name and address.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (28th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (29th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (30th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30). P.M.

THURSDAY (31st).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (2nd).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (28th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—8 P.M.: Council Meeting. 8.30 P.M.: Papers:—Mr. J. D. Malcolm: A Case of Injury and One of Exposure of the Bladder in Operating for Femoral Hernia.—Mr. E. Owen: Injury to the Bladder in Femoral Herniotomy.

ROYAL SOCIETY OF MEDICINE (ODONTOLOGICAL SECTION) (20, Hanover-square, W.).—7 P.M.: Council Meeting. 8 P.M.: Inaugural Address:—The President (Mr. J. H. Mummery). Paper:—Mr. J. Humphreys: The Structure of the Teeth of Fossil Fishes (illustrated with lantern slides).

WEDNESDAY (30th).—BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY (20, Hanover-square, W.).—5.30 P.M.: General Meeting. Ordinary Meeting. Presidential Address:—Dr. W. H. Tyson (Folkestone): Some Thoughts about our Society and its Work).

THURSDAY (31st).—HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—Papers:—Dr. B. H. Spilsbury: Lymphatism in Relation to Death under Anæsthetics.—Dr. S. Phillips and Mr. G. French: Cases of Lymphatism.

FRIDAY (1st).—WEST LONDON MEDICO-CHIRURGICAL SOCIETY (West London Hospital, Hammersmith-road, W.).—8.30 P.M.: Clinical Meeting. Cases will be shown at 8 P.M.

SOCIETY OF ANÆSTHETISTS (20, Hanover-square, W.).—8.30 P.M.: Communications: Mr. H. Hilliard and Mr. K. Thomas.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (28th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—12 noon: Lecture:—Dr. Low: Pathological Demonstration. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Dr. Davis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. H. G. Adamson: Clinique. (Skin.) 5.15 P.M.: Lecture:—Prof. C. Allbutt: The Senile Cardio-Vascular System.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—10 A.M.: Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Medical Out-patient (Dr. T. R. Whipham); Throat, Nose, and Ear (Mr. H. W. Carson); X Ray (Dr. A. H. Pirie); 4.30 P.M.: Medical In-patient (Dr. A. J. Whiting).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Sir Dyce Duckworth: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. W. Turner: Surgery. 4 P.M.: Dr. StClair Thomson: Ear and Throat. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—9 A.M.: Operations. 2.30 P.M.: In-patients—Medical (Dr. Beevor); Out-patients—Medical (Dr. Willcox), Surgical (Mr. Low), Eye (Mr. Morton and Mr. Coates).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Pemphigus, Dermatitis Herpetiformis, Epidermolysis Bullosa Hereditaria.

ROYAL DENTAL HOSPITAL AND LONDON SCHOOL OF DENTAL SURGERY (Leicester-square, W.C.).—5.30 P.M.: Mr. B. Lloyd-Williams: The Retention of Dentures in Difficult Cases.

TUESDAY (29th).—POST-GRADUATE COLLEGE (West London Hospital Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Bidwell.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. Taylor: Clinique. (Medical.) 5.15 P.M.: Lecture:—Dr. D. Sommerville: Medical Conditions of the Alimentary Tract.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Clinique:—10.30 A.M.: Medical Out-patient (Dr. A. G. Auld). 2.30 P.M.: Surgical Operations (Mr. Carson). Cliniques.—Surgical Out-patient (Mr. Edmunds); Gynæcological (Dr. A. E. Giles). 4.30 P.M.: Demonstration:—Dr. A. H. Pirie: The Theory and Practice of the Production of X Rays.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. T. Hewlett: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. Carless: Surgery. 4 P.M.: Mr. M. Morris: Diseases of the Skin. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Beale), Throat and Ear (Mr. Waggett); Out-patients—Surgical (Mr. Edmunds), Throat and Ear (Mr. French); Operations (Mr. Beale).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration: Mr. Stuart-Low: Middle Ear and Labyrinth.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Dr. R. Russell: Syringomyelia.

WEDNESDAY (30th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. X Rays. Mr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations. 5 P.M.: Lecture:—Dr. Ll. Williams: Extraction.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. H. L. Barnard: Clinique. (Surgical.) 5.15 P.M.: Lecture: Mr. T. Collins: Myopia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—Cliniques:—2.30 P.M.: Medical Out-patient (Dr. Whipham); Dermatological (Dr. G. N. Meachen); Ophthalmological (Mr. R. P. Brooks).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. F. Taylor: Medicine. 2.30 P.M.: Operations. 3.30 P.M.: Mr. Cargill: Ophthalmology. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye. 2.15 P.M.: Special Lecture:—Dr. F. Taylor: Malignant Endocarditis.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Surgical (Mr. Stabb); Out-patients—Medical (Dr. Horder), Gynæcological (Dr. Lockyer), Skin (Dr. Whitfield), Teeth (Mr. Baly); Operations (Mr. Stabb).

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Pityriasis Alba, Pityriasis Rosea, Pityriasis Rubra, Pityriasis Rubra Pilaris.

THURSDAY (31st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. X Rays. Mr. Dunn: Diseases of the Eye. 2.30 P.M.: Operations. 5 P.M.: Clinical Lecture:—Dr. Davis.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Lecture:—Mr. E. W. Brewerton: Sympathetic Ophthalmia.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—2.30 P.M.: Gynæcological Operations (Dr. Giles). Cliniques:—Medical Out-patient (Dr. Whiting), Surgical Out-patient (Mr. Carson), X Ray (Dr. Pirie). 3 P.M.: Medical In-patient (Dr. G. P. Chappel). 4.30 P.M.:—Lecture: Mr. H. W. Carson: Surgical Disorders of Digestion.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. G. Rankin: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Sir W. Bennett: Surgery. 4 P.M.: Mr. M. Davidson: Radiography. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Ear and Throat.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—2.30 P.M.: In-patients—Medical (Dr. Morison).

ST. JOHN'S HOSPITAL FOR DISEASES OF THE SKIN (Leicester-square, W.C.).—6 P.M.: Chesterfield Lecture:—Dr. M. Dockrell: Seborrhœa and Psoriasis dealt with as Stages of the same Dermatitis in Symptoms, Diagnosis, and Treatment.

CHARING CROSS HOSPITAL.—3 P.M.: Demonstration:—Dr. Galloway and Dr. MacLeod: Diseases of the Skin. 4 P.M.: Demonstration:—Dr. MacLeod: Dermatological. (Post-Graduate Course.)

HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M.: Lecture:—Mr. Corner: The Irreducible Inguinal Herniæ of Female Children.

FRIDAY (1st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. M. Moullin: Gynæcological Operations. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. Dr. Abraham: Diseases of the Skin. 5 P.M.: Clinical Lecture:—Mr. Paget.

MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. C. A. Parker: Clinique. (Throat.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Prince of Wales's General Hospital, Tottenham, N.).—10 A.M.: Clinique:—Surgical Out-patient (Mr. H. Evans). 2.30 P.M.: Surgical Operations (Mr. Edmunds). Cliniques:—Medical Out-patient (Dr. Auld), Eye (Mr. Brooks). 3 P.M.: Medical In-patient (Dr. M. Leslie).

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich).—2.15 P.M.: Dr. R. Bradford: Medicine. 2.30 P.M.: Operations. 3.15 P.M.: Mr. McGavin: Surgery. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 12 noon: Skin. 3.15 P.M.: Special Lecture:—Mr. McGavin: Surgical Complications of the Exanthemata.

GREAT NORTHERN CENTRAL HOSPITAL (Holloway-road, N.).—3 P.M.: Clinical Lecture:—Dr. Horder: Some Points in Connexion with Oral Sepsis (illustrated).

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—3.45 P.M.: Demonstration:—Mr. Stuart-Low: Middle Ear and Labyrinth.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M.: Clinical Lecture:—Sir V. Horsley: Surgery of the Nervous System.

SATURDAY (2nd).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. X Rays. Dr. K. Scott: Diseases of Eye. 2.30 P.M.: Operations.

LONDON SCHOOL OF CLINICAL MEDICINE (Dreadnought Hospital, Greenwich.)—2.30 P.M.: Operations. Out-patient Demonstrations:—10 A.M.: Surgical and Medical. 11 A.M.: Eye.

HOSPITAL FOR DISEASES OF THE SKIN (52, Stamford-street, Blackfriars, S.E.).—5 P.M.: Lecture:—Mr. T. J. P. Hartigan: Drug Eruptions, Traumatic Dermatitis.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Oct. 24th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Oct. 18	29·31	S.W.	0·04	73	57	48	50	52	Cloudy
,, 19	29·53	S.W.	0·11	99	62	52	54	57	Cloudy
,, 20	29·58	S.	0·14	88	61	53	53	54	Cloudy
,, 21	29·89	S.W.	0·12	103	63	54	54	56	Fine
,, 22	29·94	S.W.	...	103	60	52	52	54	Cloudy
,, 23	29·90	S.W.	0·02	61	52	50	49	51	Raining
,, 24	29·91	E.	0·02	76	55	41	43	44	Foggy

During the week marked copies of the following newspapers have been received.—*Western Evening Herald, British Journal of Nursing, Birmingham Post, North-Eastern Daily Gazette, Bristol Evening Times, Bradford Observer, Huddersfield Examiner, Notts Evening Post, Building World, Yorkshire Daily Observer, Hertfordshire Mercury, North Devon Herald, Westminster Gazette, Notts Evening News, &c.*

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